

"Read Wherever Good Candy Is MADE"

The Candy Manufacturer

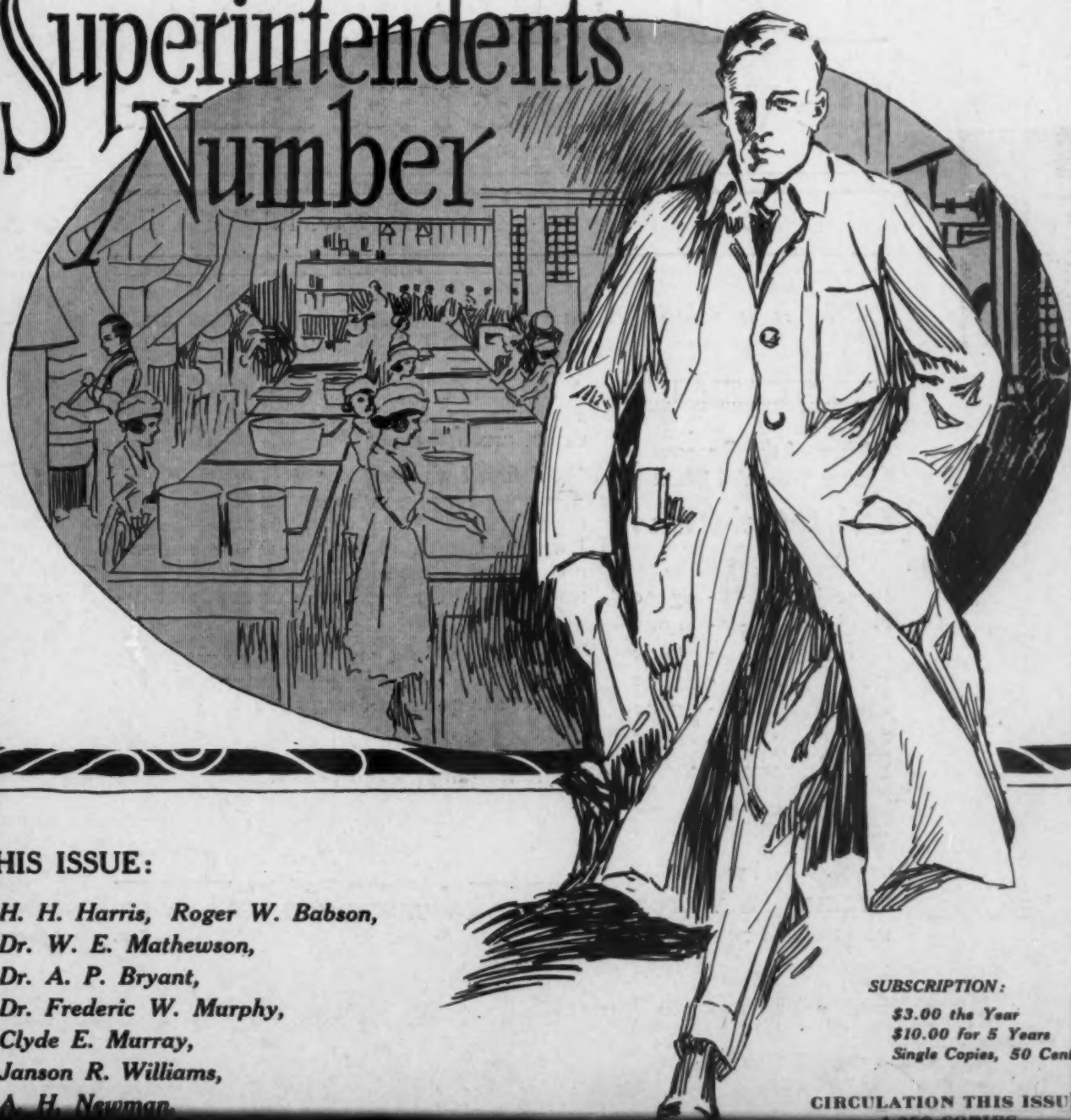
A Technical and Commercial Magazine for Manufacturing Confectioners Exclusively
Published by THE CANDY MANUFACTURER PUBLISHING CO., Stock Exchange Bldg., Chicago

Vol. II—No. 1

JANUARY, 1922

EARL R. ALLURED
President

The Superintendent's Number



THIS ISSUE:

H. H. Harris, Roger W. Babson,
Dr. W. E. Mathewson,
Dr. A. P. Bryant,
Dr. Frederic W. Murphy,
Clyde E. Murray,
Janson R. Williams,
A. H. Newman.

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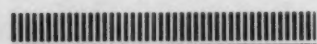


DELFT

The World's Best Food Gelatine

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"Price is a relative term—Quality always a concrete fact"



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Gas in M-M - - gone
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A large and critical manufacturer, operating a laboratory and understanding gelatine value, recently said:

AT first I was skeptical of your statement regarding freedom from liquefying bacteria, but after using the goods all summer, I wish to compliment you upon the achievement and to tell you Delft is the finest gelatine I have ever used or analyzed, and am using 34 pounds as against 42 pounds before."

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214 Washington Avenue,

ST. LOUIS, MO.

NOTICE!

There still seems to be some confusion throughout the industry regarding the management of this magazine and therefore we repeat the statement that—

The Candy Manufacturer is the only magazine published by The Candy Manufacturer Publishing Company and is not connected or affiliated in any way whatsoever with the publishers of *Candy and Ice Cream* and *The Candy Jobber* of this city.

We hope to be able to make an announcement shortly which will materially clear up the confusion regarding these titles and facilitate a correct understanding of the magazines issued by these two publishing companies in question.

In the meantime, remember our street address, please—30 North La Salle Street, The Stock Exchange Building (not the Wrigley Building). See page 64.


Publisher.

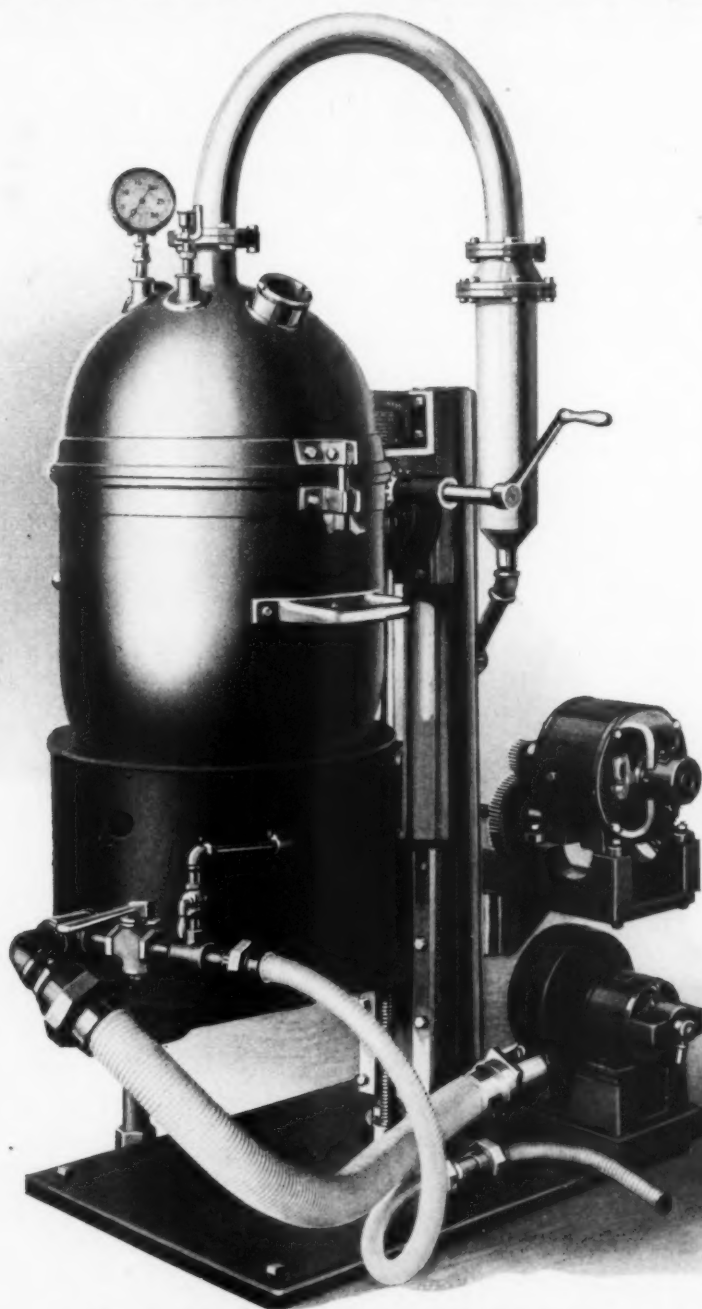
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Simplex Gas Vacuum Cooker



Pulls the Cost out of Hard Candy

Vacuum Candy Machinery Co.

326 W. Madison Street, CHICAGO

Members: National Confectioners' Association, Midland Club, Chicago Association of Commerce.
Applicant for Membership in Audit Bureau of Circulation.

The Candy Manufacturer

"READ WHEREVER GOOD CANDY IS MADE"

*A Specialized Technical and Commercial Magazine for Confectionery
Superintendents, Purchasing Agents and Executives*

PUBLISHED MONTHLY BY

THE CANDY MANUFACTURER PUB. CO., Inc., Stock Exchange Building, CHICAGO

EARL R. ALLURED, Editor and Publisher

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Vol. II

JANUARY, 1922

No. 1

PURPOSE

The purpose of THE CANDY MANUFACTURER is to provide a medium of constructive service and communication between manufacturing confectioners exclusively, a high-class specialized business magazine devoted to the problems and interests incident to the manufacture of confections and the management of a candy factory.

POLICY

THE CANDY MANUFACTURER, being a highly specialized publication, is edited in the interest of the executive, the purchasing agent, the chemist and the superintendent exclusively, and provides a medium for the free and frank discussion of manufacturing policies and problems, methods and materials.

The same corresponding policy applies to the advertising pages which are available only for a message directed to manufacturing confectioners and relative to a reputable product or service applicable to a candy factory.

The Candy Manufacturer believes in

1. A Candy School.
2. A Uniform Method of Standardized Cost.
3. Maximum Labor and Machine Efficiency for an Equitable Wage.
4. The endorsement and adoption of The National Standard Catalogue Size, Invoice Form and Coal Contract.
5. A National Council of Confectionery Superintendents representing local and territorial organizations.

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DO NOT CONFUSE The Candy Manufacturer with other publications with similar names published in Chicago. Be sure of our street address, please: 30 North La Salle Street, Stock Exchange Bldg.

Happy New Year

IN THIS ISSUE

	Page
A Message to Candy Superintendents.	President Harris 19
The 1922 Outlook for the Confectionery Industry. . .	Roger W. Babson 20
Coloring Material in Confectionery.	Dr. W. E. Mathewson 21
Manufacturing Control	Clyde E. Murray 22
Invert Sugar	Frederic W. Murphy 24
Corn Syrup—I	Dr. A. P. Bryant 26
Important Factors in Machine Efficiency.	Janson R. Williams 28
Profitable Production	A. H. Newman 30
Brazilian Cocoas	Emil Pick 33
Getting Production Off the Gas Vacuum.	George J. Armstrong 34
Pacemaking As Applied to Machine Efficiency	Fred W. Amend, Jr. 39
Let's Understand Gelatine.	L. O. Thayer 40
The Coconut Industry. III—Consumption.	Franklin Baker, Jr. 42
The Sugar Situation.	Dwight O. Palmer 43

Coming—In February Issue

Color in Food,
G. D. McDonald.
Coatings and Coatings,
By a Buyer.
VI—Crystallization,
Frederic W. Murphy.
VI—Treating Overhead Expense
Clyde E. Murray.
Corn Syrup—II,
Dr. A. P. Bryant.
Flavors,
Dr. W. W. Skinner.
Selling Candy with Attractive Packages—I,
Robert F. Salade,
A Story of the Fred Sanders Institution,
Elwood Sampson.

March Issue: THE SALES MANAGER'S NUMBER



The New Year Will Be Prosperous When You Use "Savage" Equipment

Prospects were never brighter for the candy manufacturer and confectioner than they are today. Never before has it been so important to cut production costs and to increase the quality of your product to meet competition.

ECONOMY of production is best obtained by the use of labor and time saving machinery providing that machinery will produce the highest quality of goods at an actual saving in dollars and cents.

Savage Bros. Co. have specialized for years in the manufacture of confectioners' and candy makers' equipment. We have an immense building

running at top speed, turning out the hundreds of items which every candy manufacturer must have.

During our years of manufacturing we have continuously studied the field and have anticipated the wants of our patrons. The best of material, the most careful workmanship, and the most expert supervision have been put into the Savage line.

SAVAGE BROTHERS CO.



The Savage Line Has Stood the Test

The steady increase in the size of our plant, the hundreds of repeat orders from pleased customers is the greatest proof that the Savage line has met the requirements of the discriminating confectioner and candy maker.

A Complete Line

We can fully equip any size plant with the most up-to-date and efficient candy making equipment. The Savage line is composed of hundreds of items, and every item scientifically designed and expertly made.

From Chocolate Moulds to Mixer and Cooker Battery— All Made By Experts

No matter how small the item may be, or how large—no matter how simple or how complicated—Savage has it; and we have the best.

Start the New Year right by replacing old, inefficient equipment with the newest design. Prepare yourself to meet the keen competition of 1922 and share in the big profits that will be made by the confectioner and candy manufacturer who produces high quality goods at the least manufacturing cost.

Write for complete catalog of the Savage line. You will see something there that you need.



Send Your Machinery and Copper Work to Us for Repairs

2638-46 Gladys Avenue, Chicago, Ill.

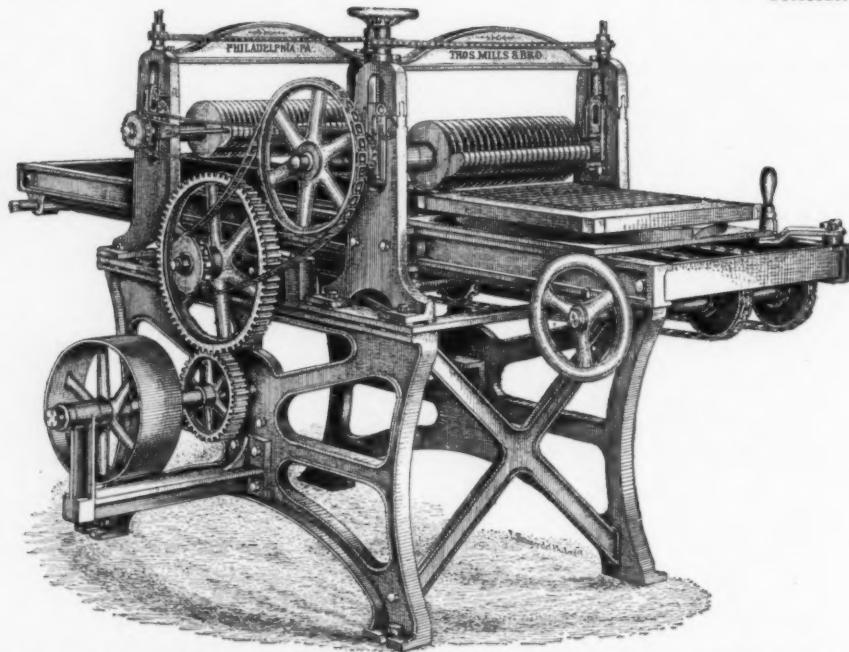
THOS. MILLS & BRO., Inc.

Established 1864

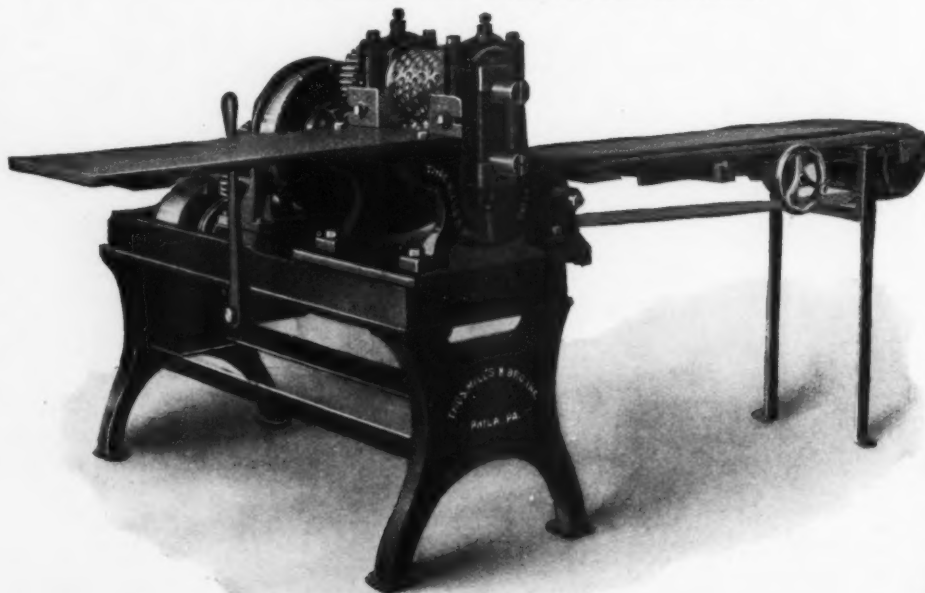
CONFECTIONERS' TOOLS AND MACHINERY

1301 to 1315 North Eighth St.

PHILADELPHIA, PA.
STATION O



Automatic Caramel Cutting Machine—Cuts Both Ways in One Travel of the Bed, Used in Leading Factories for Caramels, Coconut Blocks, Etc., Send for Circular.



Large Power Drop Frame with Stand and Endless Belt Conveyor; Our Latest Type for Large Output and Heavy Duty.

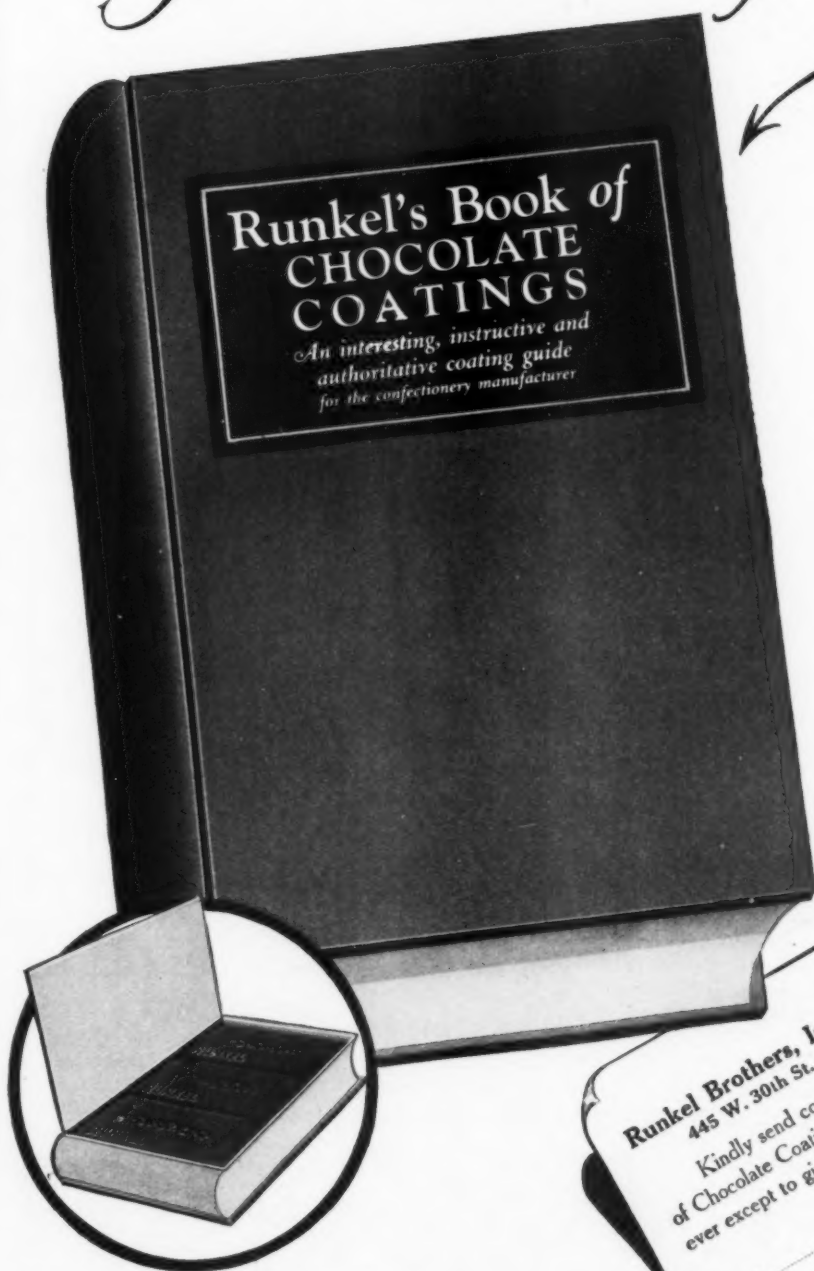
WHEN IN
CHICAGO



VISIT OUR
BOOTH 32

Our Catalog "O" Should Be in the Hands of Every Factory Superintendent; Sent on Application. Please Mention "The Candy Manufacturer" It Identifies You.

*Send for your copy of this
first edition of*



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Be sure to get the
complete serial of
Runkel's Coating Books

Sent Free on request

Runkel Brothers, Inc.,
445 W. 30th St., New York City.
Kindly send copy of your first edition of Runkel's Book
of Chocolate Coatings, free of cost or any obligation whatso-
ever except to give the contents our careful consideration.

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as per announcement in
The Candy Manufacturer

RUNKEL BROTHERS, Inc.

Manufacturers of

"The Cocoa with that Chocolatey Taste"

445 West 30th St., NEW YORK CITY
CHICAGO PHILADELPHIA

VEGETABLE BUTTERS

The Old Reliable

The Progressive Confectioner uses products which have been proven BEST for his purpose by over 25 years of quality and service.

Ask "ARMITAGE"



KOKOREKA

Pure, hard vegetable butter used for thinning chocolate, caramel work, nougats, butter scotch, chews and fudges.

KO-NUT

is king for salted nuts, a pure, sweet, neutral nut fat for roasting salted nuts, popcorn work, slab dressing, kisses, chewing candies, ice cream cones and as a filler.

PLASTIKO

A pure nut butter made plastic. Used for sandwich work, caramels, filled candies and other candy work.

PARASUB

Hard stock substitute for paraffine and excellent where a quick setting fat is required, such as in Easter work, penny dipping, lower priced chocolate work, popcorn work, caramels, kisses, etc.

Ask "HICKEY"



Our Practical Demonstrators

have solved many problems for candy makers. They are eager to give you experienced technical advice on how to obtain the best results with our products, as well as suggesting new uses for them that will save you money.

Any time you experience difficulty with your goods, write us. Our demonstrators will advise you, and if desired, when in your city, will work out your problems in your factory.

Write for free samples and booklet—"Science in Confectionery;" also for our new special literature "Uses and Abuses of Chocolate Coating," "How to Salt Peanuts" and "Popping Corn with Ko-Nut."

INDIA REFINING COMPANY PHILADELPHIA

ORIGINAL Manufacturers of Refined Coconut Oil Products in the United States

Established 1895

LARGE STOCKS CARRIED IN PRINCIPAL CITIES

Vanilla Flavoring Better than the Bean

THERE is no test of Vanilla flavoring quality, economy or satisfaction that is not best and most dependably met by Ozone-Vanillin.

An ounce of Ozone-Vanillin has the flavoring energy of about 2½ pounds of superior Vanilla beans and by proper manipulation is soluble in 10% alcohol. The immense saving herein attained is truly representative of the efficiency principles without which no manufacturing organization is really complete.

Ozone-Vanillin is absolutely pure, derived solely from selected vegetable sources by an exclusive process which eliminates every trace of superfluous matter and derives an aromatic

body identical with the Vanillin which would result from perfect purification of the chief flavoring principle of best Vanilla beans.

Ozone-Vanillin is utterly uniform in character and results. Herein lies a significant advantage over Vanilla beans, which by their nature are bound to vary in size, quality and flavoring value.

Thus Ozone-Vanillin is highly favored by those progressive manufacturers who realize that there can be no standardization of the finished product or of ultimate profit unless the flavoring base be standard in all the essentials of quality, economy and satisfaction.

UNGERER & COMPANY

124 West 19th Street

Philadelphia, Pa., 514 Arch St.

Chicago, Ill., 326 W. Madison St.

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New Orleans, La., 305 Baronne St.

Paris, France, 11 Rue Vezelay

OZONE-VANILLIN

PURER, SURER THAN THE BEAN

The Slate and the Sponge

Remember the Little Red School House, the slate with which you started to learn the 3 Rs, and the kindly sponge that wiped out all mistakes and gave you a clean, fresh start every day?

So Life's Great "checker board of alternate days and nights" is the slate on which we write our successes and our failures—on which Father Time takes his "pencil in hand" and inscribes good times and bad times.

Frequently business difficulties loom up like mountains drawn on the Slate. But mercifully along comes the New Year. We are handed a brand new sponge soaked in Confidence and are invited to wipe the Old Year out and take a fresh start.

1921 has been a year that has tried the bravest souls. So let us as one discouraged brother suggests—"wring" it out. Or better still let us use the kindly confidence-soaked sponge and start 1922 with clean, shining slates, and pencils sharpened to write more business than in any of the previous years.

We are holding up our clean slate for each and every one of our customers to read the first line written on it—

A Happy and Prosperous New Year

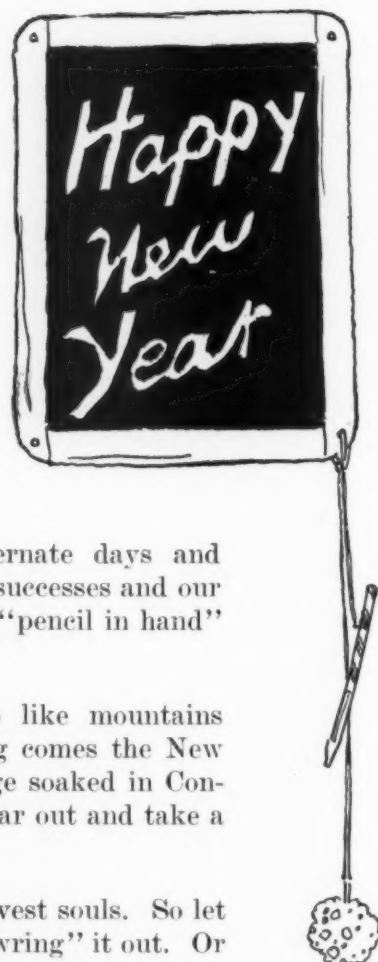
American Coconut Butter Company

Makers of ACOMO, ACOMINE and MAROKO

CHICAGO
127 N. Dearborn St.

NEW YORK
297 Fourth Avenue

To insure prompt service, complete warehouse stocks are maintained at the principal distributing centers



Is the small retail candy maker going to put the large manufacturing confectioner out of the package goods business?

Manufacturers of package goods depending upon National distribution must either sell their goods over the retail counter at 60c a pound or go out of the package goods business.

UNLESS

The package that sells for \$1.50 is so vastly superior to the 60c package in appearance, that it will be worth \$1.50 to the buyer.

JÉCLAIR
The Package Beautiful

will sell your candy for you at

\$1.50 per pound

R. C. TAFT CO., 223 W. Jackson Blvd., Chicago

A New Year's Call



In olden days Everybody kept Open House and Open Heart on New Year's Day.

And Everybody made New Year's calls—

And Everywhere blazing logs and good cheer greeted the caller whose password was: "Happy New Year." And whatever misunderstandings there had been, went into the past with the Old Year.

In the march of Progress, in the hurry of Everyday affairs, old New Year's customs have been packed away only to become fragrant memories of warm hand clasps and good wishes.

Nucoa is getting out the old custom of making calls on New Year's—is donning its silk hat and calling in spirit on its friends from Maine to California—from Japan to Australia.

And we're asking our loyal friends, many of whom we have served for more than a quarter of a century, to join us in ringing out the past year and its business trials, and ringing in 1922 with hope and courage.

Here's a friendly hand clasp across the miles—and



A HAPPY NEW YEAR! THE NUCOA BUTTER CO.

Makers of Coatsit Firmtex

Nucoa Butter Nucoline Plastic Nucoline

Complete warehouse stocks maintained at principal distributing centers

Refinery Sales Department

297 FOURTH AVENUE

NEW YORK, CITY

To Liven the Post Holiday Season—

WE offer to any candy manufacturer,—a group of new formulas for making distinct novelties.

Their unique character and wonderful keeping quality will make them not only live sellers, but frequent repeaters as well.

*Use the coupon if you wish,
but we prefer your letterhead*

Service Department
THE NULOMOLINE COMPANY
111 Wall Street, New York, N. Y.

Please send your novelty formulas.

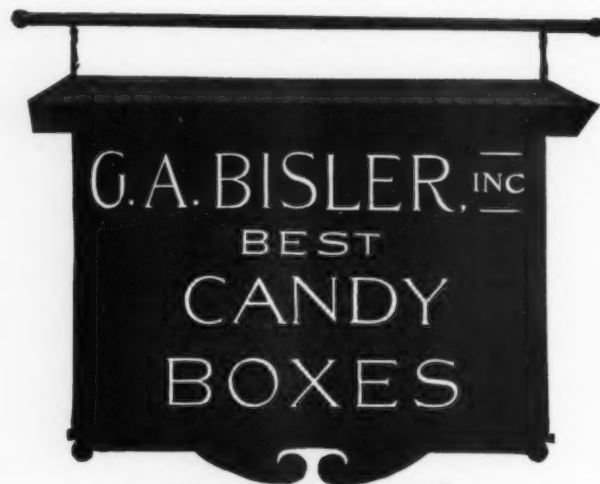
Name _____

Firm _____

City _____

Bisler's Built Best Boxes

49 Years



The Sign of
QUALITY and SERVICE

Plants in Three Cities at Your Service

DESIGNING and PRODUCING
DISTINCTIVE and POPULAR
CANDY BOXES

GENERAL OFFICES AND MAIN PLANT:
245-55 North 6th Street
PHILADELPHIA

NEW YORK FACTORY:
60-82 Washington Street
BROOKLYN, N. Y.

PITTSBURGH FACTORY:
3rd Avenue and Ross Street
PITTSBURGH, PENNA.

QUALITY
THAT
COUNTS

SERVICE
THAT
SATISFIES

Announcing—

A Wrapping Machine for Small Confections and Other Pieces

Wraps in foil, waxed or glassine paper and bands, sealing the bands.

Reproduction of this machine could not be made in time for this issue but will be sent upon request.

Every machine guaranteed to fully meet all claims made.

Equipped for magazine or conveyor feed and delivery stacker for finished product, as desired.

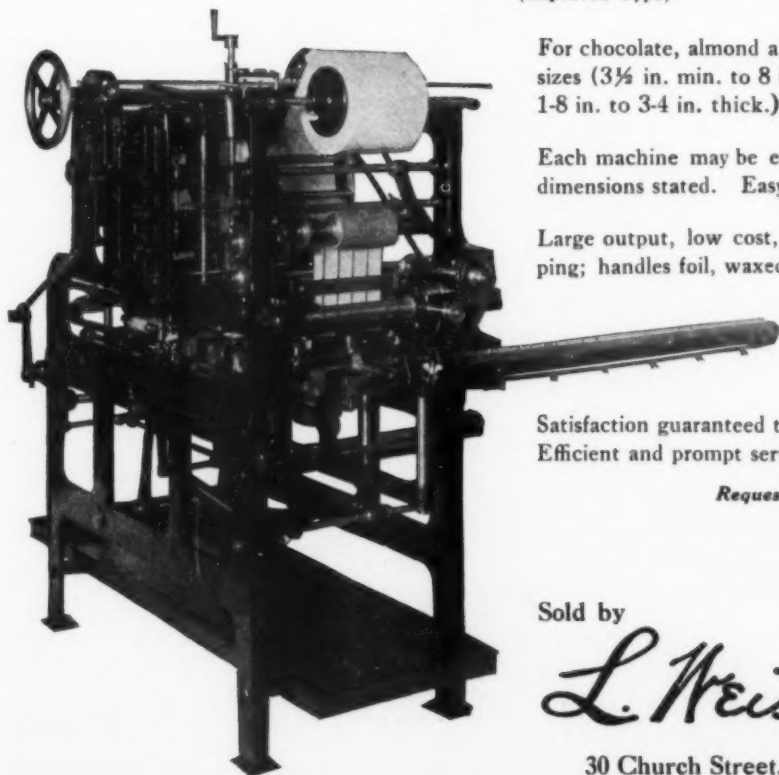
One manufacturer now using more than 10 machines of this type and several other manufacturers using 1 to 4 machines.

Operates at speed of 80 to 110 per minute, according to shape and condition of pieces to be wrapped.

References from satisfied users if desired. Send for photo and information in detail.

Ferguson & Haas Wrapping Machine

(Improved Type)



For chocolate, almond and other bar shapes and flat cakes. All sizes (3½ in. min. to 8 in. max. lengths, 1 in. to 3½ in. widths, 1-8 in. to 3-4 in. thick.) Also wraps various other goods.

Each machine may be equipped to wrap 1, 2, or 3 sizes within dimensions stated. Easy and simple adjustments or changes.

Large output, low cost, high efficiency, neat and secure wrapping; handles foil, waxed or glassine paper.

Satisfaction guaranteed to each and every purchaser. Efficient and prompt service at all times.

Request Samples if interested.

Manufactured by

Ferguson & Haas

515-521 Greenwich St.

New York City

Sold by

L. Weiscope.

30 Church Street, New York City.

Our 1922 Editorial Program

Let's talk it over—with the Editor

Our Point of View

WHAT does a candy manufacturer think about? A "Briggs" or a "Fitzgerald" might possibly answer that question graphically for us. However, through the co-operation of our staff and Advisory board and our subscribers, a schedule of articles is being worked out that will be reasonably representative of the vital interests and every-day problems with which every manufacturing confectioner is confronted—an editorial program which the executives and department heads of the candy factories have a right to expect of a magazine which is to command their attention on a par with their regular assigned every-day duties.

Commercial Features

Articles on the business outlook, market conditions and situations affecting the basic raw materials will, of course, continue, also Dr. Floyd on "Trade Marks," W. C. Lindsay on "Shipping and Transportation," and all items of vital news value.

Technical Features

SUGAR—The series by Dr. Frederick W. Murphy on "The Physical Properties of Sugar" will continue throughout the year. It seems to be the consensus of opinion among the practical personnel of the foremost candy factories that this series by Dr. Murphy is one of the most valuable contributions to the technical literature of our industry which has ever been available to the rank and file of manufacturing confectioners.

CORN SYRUP—The second article on Corn Syrup will appear in the February issue. The series under "The Laboratory" by Dr. A. P. Bryant will be continued and supplemented by open discussions and articles by superintendents and chemists based on their experience along the lines of the subjects discussed by Dr. Bryant and others in this magazine.

COCOA BEANS—The article in this issue on "Brazilian Cocos" completes the series on the history and qualities of Cocoa Beans. Mr. Pick promises something very interesting for this year along another phase of the subject of "Cocoa Beans and Cocoa Butters."

FLAVORS—Dr. W. W. Skinner, Assistant Chief, Bureau of Chemistry at Washington, is preparing an article on Flavors as the basis for a series of articles on various phases of the subject, including essential oils and essences.

CHOCOLATE—In addition to some technical articles by our staff chemists, there will be published an anthology of writings on coatings and

liquors supplemented by articles from candy superintendents.

GELATINE—Through the co-operation of Dr. E. T. Oaks, Laboratory Department, National Biscuit Company, some articles on gelatine are being worked out which promise to be very interesting. One article will be on the use of gelatine in marshmallow work and another article will be a report on researches to determine the practicability of the use of gelatine in other products. A more definite announcement will be made in an early issue.

DAIRY PRODUCTS—This is another inexhaustible subject. However, a very interesting and practical article is being worked out on the properties and uses of dairy products from sweet milk and butter to the various dairy products in condensed and powdered form.

WATER—This subject was almost overlooked in our original schedule of basic materials entering into the manufacture of candy, but it is one of the most important ones. As a starter on this subject, an article on "The composition of seventy city water supplies" will appear in the March issue. Dr. A. P. Bryant will discuss the same subject further in our April issue. Will our readers please report any experiences along these lines which will contribute to the interest and value of this series on "Water in candy making."

Merchandising

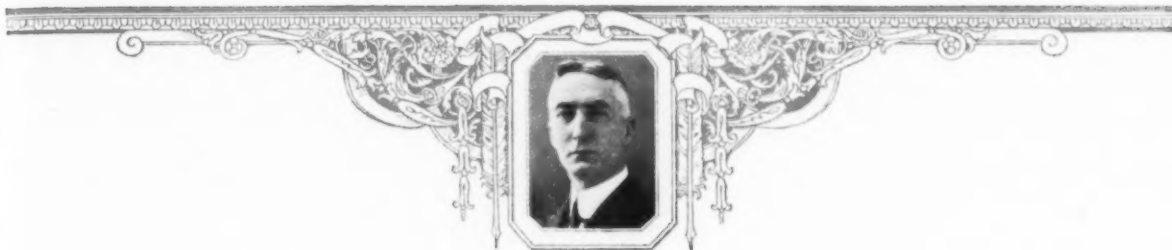
The March issue will be our first annual "Sales Manager's Number." May we have a number of volunteer contributions to this issue from sales managers and salesmen? Let's make this issue truly represent and reflect the 1922 spirit of profitable sales reconstruction.

We have in reserve plans for greatly increasing the value and service of this magazine to the manufacturing confectioners of our industry. We haven't played our face cards yet. Remember, please, that this is your magazine and that we not only welcome but expect your suggestions and constructive criticisms.

Summary

Such an editorial program of accomplishments, we believe, insures a circulation of the most solid and genuine kind, an audience of the manufacturing fraternity of the industry, a medium of communication with potentialities second only to a "closed session" of the same individuals assembled in person. Admission charge, for the entire season of 1922—\$3.00. "We never close."

EARL R. ALLURED, Editor.



A Message to Candy Superintendents

From President Harris

WHILE we all hope and confidently expect to see a steady improvement in business, yet we must realize that for the next twelve months or more we will face very keen competition. Many industries have expanded in the past, and ours is by no means an exception. We cannot avoid competition, as it is inevitable at all times, but we can prepare ourselves to meet it, and the equipment for such preparation will not be the apparently easier method of cutting prices, but by attaining more efficiency in each department, and by closer attention to matters we may have to some extent overlooked in the past few years. We should watch our overhead expenses and cut them wherever possible, but not in such a way to lose sight of profitable productive results.

The factory superintendent should remember that the effectiveness of this method will not only eliminate competition, but it is also the best way to increase the consumption of the product of his individual factory. Quality and workmanship and distinctiveness in the article produced are the biggest stimulants to business, and the factory whose sales are the largest is the factory whose superintendent realizes this fact and impresses it upon each and every employee under him.

There will be some "sinking ships" in our industry whose S O S call will be cut prices on account of surplus stock, but this will tend to keep them afloat for only a short duration, and when they go down, others will glide peacefully along because they have considered the effectiveness of labor and machine efficiency, quality and workmanship, which are the proper pilots behind the goods.

A. H. Harris

President National Confectioners' Association.



The 1922 Outlook for the Confectionery Industry



by **Roger W. Babson**

President, Babson's Statistical Organization

Exclusively for The Candy Manufacturer

NOW that the fall manufacturing season is over, candy manufacturers are actively interested in the prospects for their industry during 1922. Considering the vast and radical changes that have occurred in this industry during the past few years, a careful analysis of the fundamental conditions is necessary before an accurate forecast for next year can be made. The readjustment has been severe and manufacturers in this industry have suffered as greatly as in almost any other of our important lines. Generally speaking, the worst is over, and 1922 will prove a less hazardous and generally better year for the candy manufacturers than 1921.

Is the Candy Industry Different?

A year ago at this time many confectioners considered that their industry was "different." Candy, they considered, was a food; large sums of money that formerly went for liquor were used for the purchase of candy, hence their business would be excellent, at least through the Christmas season of 1920. Consequently, heavy purchases of high-priced raw materials were made; stocks of candy were radically increased; wholesale and retail prices were maintained, and in some cases increased. By the time that the retail candy season arrived the general industrial readjustment was well under way. Purchases of candy slumped decidedly, manufacturers faced a heavy cancellation of orders, and the carry-over of goods into 1921 was abnormally large. Added to this condition was the radical slump in sugar prices which nearly forced several of our largest candy manufacturers into bankruptcy. These conditions showed that the candy industry was not "different" from other lines and was subject to the broad economic changes that were then taking place in business. All connected with the industry should realize this fact and not be caught again as they were in the fall and winter of 1920.

From a price standpoint many of our candy retailers and a few of our manufacturers still believe that they can change economic trends to suit their own convenience. In other words, confectionery prices in many cases have not been reduced in accordance with the reduction in other commodities and the decline in the cost of production. Wholesale prices have been reduced from 20% to 40% below a year ago. Retail prices have not declined in accordance. Prices will be maintained through the Christmas season, then will tend to weaken and should decline radically during the early part of 1922.

Because of these high prices of confectionery, profits are apparently large. However, the heavy inventories that manufacturers carried over from last year and the slump in demand have greatly reduced profits during the last year and a half. To those not acquainted with the industry, the outlook is unusually promising. We are constantly receiving requests for our opinion on the outlook for different industries from manufacturers and retailers who contemplate investing in an industry. Recently the greatest number of these requests have been in reference to entering the confectionery industry. To many it appears a "gold mine," and the number of concerns in this line has rapidly increased during the past few years.

Competition—the Problem of 1922

According to the census reports, there were 3,148 establishments manufacturing candy in 1919, with a value of products of \$447,800,000. This is a 36% increase from 2,391 concerns and a 160% increase in value from \$170,845,000 in 1914. Since 1919 the number of concerns has increased, although failures are beginning to weed out the inefficient producers. Competition is one of the most important problems and will continue throughout the year 1922.

A further study of statistics shows that the manufacture of confectionery is one of our

(Continued on page 31)

Coloring Material In Confectionery



by **Dr. W. E. Mathewson**

*Chemist in Charge, Color Certification Laboratory,
Bureau of Chemistry, U. S. Dept. of Agriculture*

ARTIFICIAL coloring matters have probably come to be considered as necessary to the confectioner as to the textile maker. The gorgeous color combinations obtainable with the products of modern chemical industry differ widely from the pleasing but rather subdued tints given by such materials as chocolate, crushed fruit, and caramelized sugar, and while some adults might prefer to have their sweets or their table china uncolored, children are not so indifferent to the charm of brilliant hues. The objection that food colors are too often employed to mask imperfections has seldom been made in connection with their use in candies.

Commercial color lakes, such as ordinary carmine, and Persian berry preparations, were formerly largely used as confectioners' colors but are now practically obsolete since they frequently contain poisonous metals and other objectionable substances. Of the various other artificial coloring substances of so-called natural origin used in America for coloring candies, ammoniacal cochineal (liquid carmine) is perhaps the most favored. The permitted coal tar dyes are no doubt the artificial coloring matters now most widely used in confectionery since they possess advantages in regard to convenience, uniformity, and price. Furthermore, they can be used in admixture with one another to give almost any shade desired.

The Ten Primary Colors

An official statement issued by the Department of Agriculture as Food Inspection Decision No. 180 names ten coal tar dyes which, when properly purified and certified, may be used as food colors without objection as being in violation of the Food and Drugs Act, it being understood that the color in no case conceals damage or inferiority in the food product. Two of these dyes, Yellow A B and Yellow O B are insoluble in water and are used mainly for coloring edible fats and oils. The remaining eight are classed as follows:

Yellow Shades: Tartrazine, Naphthol Yellow S.

Orange Shades: Orange I.

Red Shades: Ponceau 3 R, Erythrosine, Amarant.

Blue Shades: Indigo Disulpho Acid.

Green Shades: Light Green S. F. Yellowish.

Intermediate Shades and Blends

Intermediate shades are obtained by mixing these dyes in suitable proportions and for this reason they have been referred to as "basic food dyes," a term which is rather confusing, as they are really acid dyes according to the common meaning of the expression, that is, they may be considered chemically as salts of colored acids.

In conformity with the physical principles underlying the mixing of pigments to obtain products of intermediate hue the mixtures of the straight dyes are always duller in color than are the components. Solutions of the three straight dyes—Tartrazine, Orange I, and Ponceau 3 R do not differ greatly in clearness of color tone, but a mixture of the red and yellow made in such proportion as to match the Orange gives a solution which does indeed exactly resemble it in hue, but is duller or less brilliant. The Orange I solution can be made to match the mixture quite closely by dulling it by addition of the proper amount of a black dye (or of a suitable one of the complementary hue violet), but it is not possible in any way to increase the clearness of color tone of the mixture of the Ponceau and Tartrazine. In general the lack of brilliancy or clearness becomes more marked as the component coloring matters differ more widely in hue, and hence a mixture of Tartrazine with the scarlet Ponceau 3 R gives a brighter orange than one of the same yellow dye with the bluish-red Amarant.

Although at the present time confectionery is usually tinted in rather bright shades, high brilliancy or purity of color tone is not always considered desirable and conspicuously clear shades are sometimes purposely softened or darkened by admixture with a small amount of a dye of nearly complementary hue, as, for

(Continued on page 32)



A Series of articles on Production, Industrial Relations, Cost Finding and Accounting, etc., based on an experience with many of the foremost manufacturing confectioners in America.



Manufacturing Control

by Clyde E. Murray

Vice-President, The Stevenson Corporation

THE confectionery industry offers a wide field and virgin soil for the application of scientific production control methods.

Admittedly the seasonable nature of the business increases the difficulty of obtaining the proper manufacturing control at all times. This, however, is not a prohibitive article, for the proper production methods will furnish this control in slack or busy seasons.

Working On Schedule

Production methods are as essential for an efficiently operated factory as is the time table to a railroad. If trains were dispatched with no regard to time, the railroad system, whether large or small, would soon be in a state of chaos. Fortunately the results in a candy plant are not so serious, but they react to the disadvantage of the manufacturer in a dollar and cent way.

The theory of the railroad schedule should be used in manufacturing; goods should start on schedule, be at certain stations or production centers on schedule and arrive at the finished stock on schedule. Lack of these methods causes an unbalanced raw material stock, too much of one commodity and none of something else—an unbalanced stock in progress causing waits by machines or hand operations, an unbalanced finished stock with an over-supply of certain boxes or pieces and a shortage of others and in every way adds to the problems of the executive.

Again it is emphasized that the nature of the business complicates the methods somewhat, but the writer will attempt to outline a comparatively simple system which has been and

is being used in a number of candy factories with uniform success.

The Necessary Information

It is necessary primarily to obtain and tabulate certain information regarding the business, assuming, of course, that this information is not already available.

First: There should be complete control by means of perpetual inventory cards of raw materials and of finished stock.

Second: There should be a complete standardization of weights of batches, centers, finished pieces, etc., and a standardization of assortments and findings for all packages. In other words, every unit of production should be standardized.

Third: The exact capacity of each production center should be measured. For instance, the capacity daily of the cooking kettles, of the moguls (these separated into classes such as single run, double run, etc.), of the caramel and nougat, of the dipping, of the enrobers, of the various packing departments, of the pan department, of the gum work department and so on through the entire plant. This record, in other words, should show just what is possible for each department to produce under normal circumstances of each kind or class of work.

Fourth: There should be an analysis of sales for several years back, showing the monthly sales record of each piece or package in the line and these sales shown in a comparative way. It is obvious that an exact past performance record of this sort is necessary as a future guide to production. This record will naturally have to be modified or amplified to take care of the current trade conditions, and

to take care of any new pieces or boxes which may be added to the line. Aside from any production method needs, sales analysis of this nature should, in any event, be kept as a means for executive control.

Current Requirements

When these various tables and figures have been compiled and tabulated, will come the secondary step, in the building up of production control, and that is the treatment of current requirements. From the sales department will be furnished a sheet showing finishing stock requirements for the following month. This sheet will be made up not later than the 20th of the current month. In making up this forecast of sales, the sales department will be guided to a considerable extent by their past performance record, making, however, any changes which immediate trade conditions seem to warrant. When the sheet has been subjected to executive scrutiny and, if necessary, to conference, it will pass along to the finished goods stock card clerk, who will check same against his record of finished goods on hand, paying particular attention to his minimum and maximum quantities, and then prepare a statement of the net requirements from the factory for the following month against the sales department estimate. It can be readily seen that this method at this particular point will eliminate any chance of overstocking on any one or any series of finished pieces or packages. The statement of net requirements will then pass along to the production department and at this point the bulk of the necessary work occurs.

The finished stock requirements are broken down first into material requirements. By ref-

erence to the tables of standards, a statement will be compiled showing the factory requirements of all commodities and findings necessary to complete the production schedule. This record of material and findings required will then pass along to the raw material stock cards and, after checking against stock on hand of the various commodities, a memorandum of

material shortages against these requirements will be prepared and sent to the purchasing agent. Here again it will be readily seen that this method will eliminate any possible waits due to shortage of raw materials as the purchasing agent is notified sufficiently in advance by this method, so that he will have ample time to order in the necessary materials.

The production department will then take the finished goods requirement sheet and break this down against the capacity of his various production centers, allocating the production requirements to these centers in a way which will allow for a definite manufacturing balance or control. For instance, it may happen that the requirement sheet demands 150 per cent of the capacity of the mogul department. In this case it is the superintendent's function either to definitely notify the production department that its demands are in excess of any possible capacity, or, to fit up by overtime work, etc., to produce this extra requirement. In any event the production department will definitely allot to each production center daily requirements of each kind and class of goods necessary in order to comply with the sales department wants, and

will in turn allot these requirements to the factory in such a way as to allow for the most economical manufacture and to establish the most desirable shop quantities. This in itself is a

(Continued on page 46)

Questionnaire for Superintendents

***"Production methods are as essential
to a factory as a time-table
is to a railroad"***

Do you maintain a perpetual inventory of supplies?

Do you standardize each unit of production—weight of batches, finished pieces, assortments, supplies, etc.?

Do you measure the capacity of each production center—cooking kettles, moguls, enrobers and all departments, such as dipping, pan, gum work, packing, etc.?

Do you know the sales record of each piece or package and do you establish production requirements against pre-determined capacity figures?

Is your work so systematized that you get a maximum raw material turnover, and can arrange for necessary labor requirements without holding up the delivery of orders?

Mr. Murray gives a logical and practical system for manufacturing control, a plan which has been "tried and found not wanting" by many of the most successful candy factories in this country. May we have an open discussion on this subject from a number of superintendents. Let's have the benefit of each individual idea and experience in the general adaptation of these fundamental points in efficient and intelligent manufacturing control.—Editor.

Sugar—Its Physical Properties—V

Mr. Murphy is one of the foremost Sugar Chemists in America. For fourteen years he was with the American Sugar Refining Company as Chief Chemist and assistant to the Chief Refiner in Boston.



Shall we reserve for you a bound volume of *The Candy Manufacturer* containing Mr. Murphy's complete serial? Price \$5.00. It will also include of course all the other serials of technical articles on schedule, any one of which is worth the price of the volume.—EDITOR.

Invert Sugar

The fifth of a series of articles on "The Physical Properties of Sugar," and what can be done with them to obtain any desired result in confectionery.

Exclusively for The Candy Manufacturer

by Frederic W. Murphy

Consulting Chemist and Executive

TO the average confectioner the product known as invert sugar suggests very little. Yet it is the same invert sugar that enables him to make a large variety of confections, according to the percentage of invert sugar and cane sugar he uses; in other words, a confection varies in physical properties from hard to plastic, according to the amount of invert sugar contained.

If one could have an analysis made of each of the confections produced, the above statement would be instantly appreciated. You may use albumen, gelatine, etc., but your invert sugar is always in evidence, and is the one ingredient which plays the most important part. Its absence or presence means success or failure in the production of confections, according to what is desired.

The method of determining invert sugar given in the last article can be used to determine the percentage of invert in all confections and the manufacturer who becomes skilled in making these tests will be well repaid for his labor.

Invert sugar to the layman suggests a hard crystalline material similar to granulated sugar, but this is not true. Invert sugar is a mixture of two sugars, appearing commercially as a semi-solid, plastic mass, or a thick viscous liquid.

When an acid is added to a solution of cane sugar, a transformation takes place which is not visible to the human eye. Two other sugars are formed, both having the same formula, but possessing different physical properties. One sugar is called Dextrose and is identically the same sugar that is in corn syrup. The other is called Levulose, and is the sugar found in a great many fruits.

Relative Sweetness

By actual tests in laboratories at Washington, dextrose was found to be one-half as sweet as the same weight of cane sugar, and levulose was found to be one and one-half times as sweet. One-half and one and one-half equals two and divided by the two volumes of sugar equals one. Therefore, invert sugar is equal in sweetness to cane sugar, but no more, nor less sweet.

Much has been written about invert sugar and its wonderful sweetening power, but I have never yet found that it was sweeter than cane sugar in actual practice or that any percentage of cane sugar could be substituted by invert sugar and still have the same sweetness. There are various invert sugars sold in the open market under various trade names and some manufacturers make claims for superior sweetening power which they cannot substantiate.

What really is the value of invert sugar to the confectioner? It depends on what products the manufacturer wishes to produce. Invert sugar has properties which cane sugar and corn syrup do not possess, and in these properties which it possesses is the value to the confectioner.

Properties of Invert Sugar

Invert sugar never crystallizes.

Invert sugar is always plastic or a syrup.

Invert sugar can be cooked to a hard consistency, but on exposure to the air turns to a syrup.

In other words, invert sugar will absorb moisture from the air. In the winter season hard candies, as you are well aware, are not so apt to become sticky as in the summer season, and it is because the air in the winter-time is far more dry. In the summer season we have much more moisture per cubic foot of air, and

as invert sugar absorbs moisture from the air, that which is contained in our hard candy quickly absorbs moisture and we have sticky goods.

This is one of the great assets of invert sugar. How many times have you made fondants which you thought you "ripened" only to find out when you made up your goods that your fondant set hard. You did not have enough invert sugar in your goods. If you had the proper amount the invert sugar would have retained a certain amount of moisture and your goods would have kept fresh.

Invert sugar is extensively used by cake-makers to keep the product from drying out, as the presence of a small amount of invert sugar in the cake assures a certain percentage of water present.

I have recently seen a delicious chocolate manufactured by a new concern. It is a large piece which sells for five cents, packed in an individual carton. The center is composed of a fondant and chopped nuts. This manufacturer is reputed to have been very successful. I purchased several boxes and found them delicious when fresh. I purchased several boxes later and much to my chagrin found the goods terribly stale. The centers were as hard as brick and under the coating a mould had formed. This manufacturer is absolutely without the requisite knowledge to manufacture the goods which he is trying to put on the market. If he had increased his invert sugar, his goods would have stood up and what is more no mould could have developed. Of these moulds I will write later.

Invert Sugar and Corn Syrup

Many manufacturers do not wish to use corn syrup. Why, I have never been quite able to understand; it is possibly because some ill-advised chemists or dietician had an axe to grind. Corn syrup, as manufactured today, is a safe, sane, and useful product and has a high food value.

However there is an advantage in using invert sugar in certain products, even to the exclusion of corn syrup. In formulas a certain

amount of sugar is specified, so much cream of tartar, and instructions to cook to a certain temperature. The object in using cream of tartar, tartaric acid, citric acid, etc., is to "cut" the sugar. "Cut" translated means to turn the sugar into invert sugar. Acids and cream of tartar vary in strength and sometimes they "cut" or "invert" the sugar to a greater degree than at other times.

By having a formula calling for so many pounds of invert sugar, cane sugar, glucose, etc., the result is far more certain than depending upon the inversion in the kettle by acids, etc.

If one has the proper amount of invert sugar in their goods these confections cannot go stale. The moisture of the air will be absorbed by the invert sugar. In vacuum pan work invert sugar can be used most successfully, and is done so by some of our largest manufacturers. In satin finished goods its value has been also appreciated.

Knowing the percentage of invert sugar and of cane sugar and glucose in a confection, would it not be far easier to produce the confection with the assurance of the product always being uniform by using invert sugar than by depending upon cream of tartar, tartaric acid, etc., to invert sugar?

If you know how much invert sugar, cane sugar, and corn syrup your confection has when it is made correctly, when you have a spoiled batch, an analysis will quickly tell you what ingredient is lacking or too much in evidence.

When invert sugar is made by manufacturers for resale to confectioners it is necessary that the finished product be concentrated, as the price f. o. b. factory would run high when freight was paid on the water contained, if it was not concentrated. The price of invert sugar should be based on actual sugar units contained. Some manufacturers, unfortunately, have set the price at so much per pound, regardless of the per cent of the un-inverted cane sugar and water contained, and offer to the confectioner syrups supposed to be invert sugar syrups, which contain as high as ten per cent of un-inverted sugar.

Mr. Murphy's Schedule for 1922

February Issue:

CRYSTALLIZATION

April Issue:

**INTELLIGENT MANIPULATION
OF SUGAR**

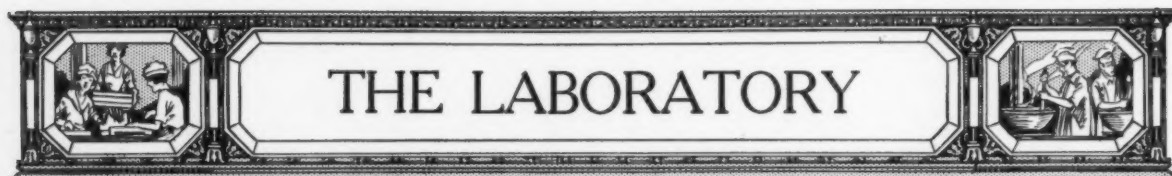
March Issue:

FERMENTATION

May Issue:

**ACTION OF SUGAR WITH
OTHER MATERIALS**

Mr. Murphy says: "These articles are not designed to give instructions to men who have had chemical training, but for those who possess ordinary common sense, and are desirous of increasing their knowledge. I am trying to speak in a language that the layman will understand."



THE LABORATORY

Corn Syrup—I

by Dr. A. P. Bryant

Directing Chemist, Clinton Corn Syrup Refining Company

Consulting Chemist, National Confectioners' Association

Definition—Corn Syrup and Glucose

THE term corn syrup is used to designate a syrup derived from the starch of corn just as the potato syrup of Europe designates a syrup made from the starch of the potato.

Corn syrup was for many years commonly called glucose, but this was a misnomer because glucose is really a definite kind of sugar found in fruit juices, in invert sugar and in the hydrolytic products of starch while corn syrup contains less than half the amount of its dry matter in the form of glucose, the balance being chiefly dextrines with a small amount of maltose and a trace of salt. The term glucose was originally applied to the sugar obtained by more or less complete hydrolysis or change of starch into sugar and was not a misnomer, but with the discovery that by carrying the chemical change to a point where less than half of the total amount of sugar had been formed a syrup was obtained which had great commercial value, the term glucose was still retained but incorrectly.

In order to bring out this point clearly, let us take a typical analysis of corn syrup of a density of 43° Beaume as ordinarily employed by confectioners and compared with an analysis of "corn sugar" which might properly be called glucose.

	Corn Syrup	Corn Sugar
Water	17.7	8.0
Glucose	28.0	90.0
Maltose	9.0	0
Dextrines	45.0	1.5
Mineral Matter .....	.3	.5

It is at once evident that to call a syrup of the above composition glucose is misleading and bound to cause confusion. It would be just as logical to call honey glucose since it contains about 35 or 45% glucose together with about the same amount of another sugar called fructose and a little water and mineral matter.

Having thus pointed out the impropriety of referring to corn syrup as glucose we may pass on to more detailed consideration of this material, its mode of manufacture, its properties and uses and its method of examination in the laboratory.

Process of Manufacture

The general process of manufacture of corn syrup is too well known to require more than brief mention. The cleaned corn kernels are soaked in warm water and by successive operations the germ is removed, dried, and the oil expelled; the hull and the gluten of the corn are separated; and finally the starch after numerous washings is obtained in a very pure condition. This starch is then mixed with water and drawn into converters together with a very small amount of muriatic acid and the whole mass cooked under pressure at a temperature of above 280° F. until the desired percentage of glucose has been obtained.

The small amount of acid is then exactly neutralized and subsequent steps in the refining process remove the slight trace of impurities from the syrup. These impurities are not such in the ordinary sense of the word, but are traces of portions of the corn such as gluten, fiber, pentosans, oil, etc., which are carried along with the starch and must be removed in the refining process. This process involves repeated filtrations over bone charcoal in much the same way that raw sugars are treated in the refineries. The refining process is under most careful, scrutinizing care at all points and tests are made on the liquors at the various stages of the process so that no irregularity can creep in unnoticed and affect the finished goods. The closer the control given the refining process the more uniform will be the output.

All of these various steps from the converters to the finished syrup are carried on in such way that the liquors are not exposed to the atmosphere or to handling, thus avoiding all chances of contamination. This makes corn

syrup one of the very purest food products on the market. Even in the final concentration to the desired gravity and in cooling and barreling, the syrup is in closed containers and is first exposed to outside influence when removed from the barrel at the candy factory.

The Truth About Muriatic Acid

Reference has been made to the use of a trace of muriatic acid in the process. This acid does not enter into any chemical combination with the corn syrup, but its presence activates the starch so that the change from starch to glucose and dextrines takes place very rapidly. This peculiar action on starch is in a way like that of nickel in the manufacture of hardened fats from oils. The nickel is not acted upon and is completely recovered afterward, none remaining in the hardened fat, but its presence is necessary.

The amount of muriatic acid which is required for changing (hydrolyzing) starch into corn syrup is only about one-half the relative amount that is found in the gastric juices of the stomach where it is absolutely necessary for the proper digestion of food. Later in the process this acid is neutralized very accurately, and it is very interesting to note that only by much more careful neutralization than would be required, as far as the syrup itself is concerned, is it possible to carry on the filtration of the syrup through cloth which is the first step in the refining process. It is safe to say that no corn syrup produced at the present time contains even the slightest trace of free acid.

Properties of Corn Syrup

Corn syrup is not as sweet as sugar syrup of equal concentration. It is difficult to compare relative sweetness because it is measured only by the palate and tastes differ, but we may say that corn syrup is about one-third as sweet as sugar syrup. This is a distinct advantage for many purposes; for example, preserves in which part of the sugar has been replaced by corn syrup will be less sickishly sweet and less likely to cause gastric disturbance; and in the same way corn syrup in candy actually per-

mits more candy to be eaten with less danger of digestive disturbance than if the candy were made of straight sugar, thus tending to actually increase the candy and sugar consumption.

Corn syrup is absolutely non-crystallizable, in fact this is one of its most important properties as it can be used in various proportions to give body without danger of crystallizing out. This is also an important property as regards candy making, as will be explained later.

Corn syrup is more viscous or thick than a sugar syrup of equal concentration. There seems to be more "body." The larger the proportion of corn sugar (glucose) in corn syrup the thinner the appearance and sweeter the taste. The most satisfactory corn syrup for confectioners' use probably is one containing about 44 parts glucose to 56 parts dextrines.

Corn syrup, on account of its viscosity and the gummy nature of its dextrine cannot be boiled to as high a temperature as sugar without scorching. It does not dry out as readily and if cooked alone tends to absorb moisture from the air and become sticky, resembling in this respect invert sugar.

The dextrines which make up over one-half the dry matter are similar to those obtained by roasting of starch. They are not as thick and viscous as most of the vegetable gums, but are of particular advantage in candy making in that they tend to fill up the pores of the candy with a protective material which helps prevent stickiness through absorption of moisture.

Corn Syrup in the Candy Factory

If sugar (sucrose) were cooked up alone for cream work or hard boiled work, the resulting candy would be coarse grained and friable and unsatisfactory. This is because sucrose tends to crystallize in large crystals. If cream of tartar, tartaric acid or the like is added to the sugar in the proper amounts the sucrose is broken down to a certain extent and invert sugar (glucose and fructose) is formed. This can also be produced by a substance derived from yeast called *invertase*. This invert sugar crystallizes with difficulty and in very small crystals and influences the candy so that the

(Continued on page 48)

DR. BRYANT'S SCHEDULE FOR 1922

February Issue: CORN SYRUP—II.

March Issue:—INVERSION OF SUGAR

April Issue:

WATER IN CANDY MAKING

Subjects for subsequent issues will be announced May 1st

Bound volumes (12 issues) of THE CANDY MANUFACTURER containing the complete serials of the technical articles now appearing, can be had only by making reservation in advance. Price \$5.00 bound in cloth.

Important Factors in Machine Efficiency

by Janson R. Williams

IN any consideration of the question of machine efficiency we must remember that we are discussing a relative term—that efficiency in anything is dependent upon many outside influences. Consciously, or not, we make certain mental reservations when we describe a machine as being one hundred per cent efficient. Such a claim is necessarily based, not only upon the qualities of the machine itself, but upon the assumption that everything which contributes to its operation is equally reliable.

Regarded solely as a combination of mechanism for utilizing or applying power, a machine may be perfect and self-sufficient; but immediately we view it as part of an organization which exists for the production of a commodity on a competitive basis, we are forced to extend our consideration to things which, while remote from the machine itself, nevertheless bear directly upon the question of its efficiency. With the latter idea in mind, I propose to reflect briefly, and apart from all technical claims, upon the factors which go to make or mar efficient operation.

The greatest of all machines is the human organism and yet, wonderful as it is, its efficiency is influenced to a tremendous extent by external agencies. Similarly, in other machinery, like factors exercise a power which helps or hinders perfect operation. The influence of these factors is distributed over the period which extends from the inception of the machine in the brain of its inventor to the end of its normal life and can be grouped, for ease of discussion, under three main heads: *Origin*, *Environment* and *Employment*. The last division is intended to cover the method of use rather than the kind of work performed.

You will readily see how greatly these factors enter into our subject. How the origin of a machine may be such as to curtail its efficiency; how its subsequent environment may militate against it, and how its method of employment may add to or detract from it, according as it is intelligent or abusive. Conceive, if you can, a machine designed and manufactured by poorly qualified and equipped men, installed amid surroundings that restrict its usefulness, and cared for little or not at all, and you have a picture of an almost totally inefficient piece of machinery. In quest of efficiency in a machine, therefore, we must start as near its source as possible. We are seldom in a position to know very much about the actual designer of a machine and so, for all practical purposes, our inquiries must start with the manufacturer.

Origin

Experience and resources are the two great requirements for the production of a good machine. Broad experience is always reflected in a product and, furthermore, if that experience has been along lines which run parallel to those of our own business we may be pretty sure that the product will be relatively good. I speak of a *broad* experience as distinct from a *scattered* one and mean an experience of specialization in meeting the demands of a well defined market.

The question of resources is also an important one, as the efficiency of a machine is in direct ratio to the ability of the manufacturer to expend time and money in experimental work. Not only does this factor bear upon the production of the machine, but it assumes significant proportions in regard to maintaining it at the required standard—in ensuring the permanency of the service which the machine represents. Some such consideration as the ready availability of repair parts may at once suggest itself to you, but there are other, and less apparent ones which may become of prime importance under certain contingencies.

Machinery, as an investment, must be productive; and the more continuously productive it is, the higher return it makes. Anything which interferes with, or prevents, its regular operation may be said, from our viewpoint, to neutralize its efficiency. Just insofar as your machine carries with it a service that offers a measure of insurance against the risk of enforced idleness it becomes more or less efficient. In an extreme case, fire or disaster to your factory may spell total inefficiency and place you in a position where the resources of the machinery manufacturer would be of the greatest moment in the resumption of your operations. Origin, then, exercises a far-reaching influence over the sustained efficiency of a machine, and as sustained efficiency is the aim of all who employ machinery for commercial purposes, its origin must receive due consideration.

Environment

Environment becomes of importance immediately the machine arrives at your factory, for it is then that it commences to bear relation to its efficiency. Installation is the first point of contact and the conditions under which it is made may be ideal—or otherwise. Probably there are some nice adjustments to be made between the “flexibility” of the machine and the space available for occupation. In many cases the manufacturer assumes, in whole or in part, the burden of installation, and here the two

factors, Origin and Environment, meet. The problem of delivering maximum efficiency under adverse circumstances is frequently encountered and, too often, a machine is judged on its performance regardless of circumstances. Remember that the manufacturer provides the machine, but you provide the environment.

The use of one machine in conjunction with another, or with others, has a great bearing upon our subject. So far as you can "dovetail" the operations of one unit into those of another, you increase the efficiency of the whole. This idea has been so greatly developed in some cases that it has resulted in the production of a composite machine, as in the case of the well-known mogul, which is a composition of a number of smaller machines. A starch buck, printer and depositor are here so closely combined as to become one machine, which handles all the work hitherto divided between three. There is, of course, a consequent and material saving of floor space but this is not the most important consideration. The loss of time between machines is done away with, the need of skilled labor is reduced to a minimum and production is greatly increased. The one continuous operation is immeasurably superior to the several distinct operations from which it has been evolved.

It is not always possible to combine machines as happily as this, but the principle can be applied with very gratifying results to other units of your machine organization. Particularly so, where a plant is equipped throughout with a standard line of machinery, as advantage can then be taken of any new developments or innovations made by the manufacturer, who is always striving for a closer combination and a more perfect interlocking of his various machines. Harmony is highly conducive to efficiency, whether the medium of production be human workers or machinery, and the conditions under which the work is performed must promote as smooth and as uninterrupted a series of operations as possible if results are to be all that can be desired.

Employment or Method of Use

Employment, or the method of use, figures largely in our subject; indeed, it is a question whether this is not, after all, the chief of the three factors under consideration. Care and proper use contribute incalculably to the efficiency of a machine just as certainly as misuse and neglect detract from it. All the advantages of origin and environment may be nullified by abuse. Humanity often rises superior to ill-treatment—machinery, seldom. The care of machinery must be continual. No intermittent enthusiasm in this respect, can make up the arrears of neglect. I am aware that such observations sound commonplace, but, in spite of all that has been written regarding the care of machinery, *practice still falls far short of precept.*

Lack of care is a negative contribution to inefficiency. Abuse is a positive one. A common form of abuse is the forcing of a machine above its normal capacity. True, this has the effect of temporarily increasing its efficiency, but as all abnormalities are compensated elsewhere by subnormalities, the price must eventually be paid. Of course, an estimated capacity may be so conservatively based that it could be considerably increased without abusing the machine; but there are limits beyond which a machine should not be called upon to go. Similarly, to pervert the function of a machine is to reduce its efficiency. It cannot accomplish, with any great degree of success, something for which it was not designed, and its employment for anything other than its true purpose means to sacrifice efficiency to experiment.

Under certain circumstances it may be deemed expedient to make heavy calls upon your machinery, and the advisability of so doing can only be decided upon in the light of facts peculiar to the situation. We are concerned here, however, only with the standard of efficiency which should prevail throughout a machine's normal life and how the factors mentioned contribute to or withhold from it—to show that any standard of efficiency is not inherent in any machine, but that it is modified by agencies which operate from the outside. In what measure it is possible, or to what degree it is profitable, to control those agencies, is a matter for individual decision.

The next two articles by Mr. Murray will be on the subject of "Treating Overhead Expense."—Editor.

I Go to School

E. LEIGH MUDGE

*Because the world hath need
Of hearts that lift when bells of worship ring,
Of souls of ardent youth developing,
Of loyal lives that labor while they sing,
I go to school.*

*Age hath its portion, too,
Of problems that survive the days of youth;
And I, if I would serve and grow, forsooth
Must ever seek the fuller, deeper truth.
I go to school.*

The one who thinks in term of hundreds will never buy in terms of thousands. The peanut stand ambition will not attain the department store success.

The main reason why we work for a living is because living is worth working for.

It's mighty hard to beat a man who doesn't know when he's licked.



Profitable Production



A Little Preachment to Candy Superintendents

by A. H. Newman

Secretary, The Midland Club

AN organization is like a chain—it is made up of small links, and the strength of the organization, or the chain, can be measured precisely by its weakest link. The superintendent of a candy factory should be one of the strongest links in the organization.

Like the man at the wheel of an ocean liner, he takes his orders from the captain on the bridge, who directs the course of the vessel with a definite destination to be attained—just like the boss in the office directs the general policy of the institution, with his objective always in view, to arrive at the end of the year at the port of "Profit."

Both leaders have large and varied responsibilities and must command the very best that is in each subordinate official to spell success. The first mate may be the sales manager and the second mate the credit man, while the chief engineer would be likened unto our chief shipping clerk, and so on down to the helpers and girls in the packing and dipping department—but we could not get anywhere without the man at the wheel, and the same should be said in the spirit of complete co-operation of every cog in the wheel.

Assuming that the general manager and other officials are all up to their proper standard, doing their part with hearty and consistent accord—let us give our immediate attention to the subject of production with a reasonable and successful profit.

Quality and "A Successful Confection"

Purity is the cardinal feature of our Pure Food laws. A manufacturer can comply with these laws in every particular and still produce a piece of goods that lacks in *Quality*. There are three essential elements in

quality that must be recognized—Purity, Taste and Appearance. It is to be hoped that we may take for granted that *Purity* is present, as no respectable, first-class house would put out impure goods. The questions of taste and appearance are vital ones and will determine the success or failure of the product. If an article that pleases the eye, that is attractive and desirable, is offered to the trade, the first sale is assured. If that article also carries the proper combination of ingredients and flavor—that pleases the taste and creates a desire for another piece, followed by more and more—the succeeding sales are equally assured.

A superintendent may sample a new piece just produced and say to himself: "Now, that tastes good—I like it. I wonder if the consumer will take to it?" If that man reaches for a second piece while debating the problem, you can classify that piece as one of your best sellers in the near future.

The only ideas I was ever guilty of possessing have come to me through experience of over a quarter of a century devoted to the manufacture and sale of candy. I have reached the conclusion that I am a fair sample of the average member of the human family, and any combination worked on me will produce the same result upon the majority of others. This thought has settled many vexing questions and has led me to believe that it is good reasoning.

This is an age of specializing. We have a multitude of examples all over the country of factories producing a particular piece of goods with the name copyrighted; in many instances, it becomes a feature product of that house. When you see that article you know instantly who makes it. In most cases good advertising is largely responsible for the successful results.

Staple goods complete this line and produce modest profits. Competition is keen and the selling price must be figured close, but with a specialty—that some houses may copy, while none are able to exactly duplicate—you have a trade builder that is like a farm out in Iowa—nobody can steal it from you and it can't be burned up. Your factory might succumb to the flames, but you still have the formula and the boss has his insurance and the good will of the trade.

This brings us to our text. We can assume that we have pleased the eye and have established the eating quality of this specialty. Market prices of raw material and labor are constantly fluctuating and staple goods have to follow up and down, but with this specialty the price has been established and it does not have to follow market fluctuations. The consumer has been sold on this piece of goods and when he or she are candy hungry they purchase—what? something else?—not likely. They know what they want and they will get it if it requires a visit to some other store. If some other piece is recommended as just as good and a little cheaper, it simply demonstrates the fact in the mind of the consumer, and ratifies the impression already there, that the higher priced piece must be better or it wouldn't be sold at a higher price. A convincing argument that settles the question beyond further debate; and the beauty of it all is that it is perfectly true—as the *additional* cost of production, compared with similar goods, is the compensation of genius—the art of "knowing how," and the consumer gets something that exactly pleases his palate and is perfectly willing to pay for it.

The retailer is merely the means by which we reach the end in view—

(Continued on page 50)

The 1922 Outlook for the Confectionery Industry

(Continued from page 20)

most important industries. Considering the retail value of the candy produced, the industry could be rated at a value of approximately \$1,000,000,000. The domestic and foreign market consumes well over 1,000,000,000 pounds per year, and the per capita consumption is now unusually heavy. Last year it was estimated at about 13 pounds in comparison with 5.6 pounds in 1914. This per capita consumption will continue heavy throughout 1922, although the probability is that the peak was reached last year. An industry of this size requires a large number of manufacturers, but it is doubtful if so great a number are necessary as are now in this business. Failures, consequently, will continue heavy, especially during the next two months. In the long run, these failures will benefit the industry, as only the efficient concerns will remain and be able to prosper.

Cut Producing Costs

Particular attention will have to be paid by manufacturers to cutting producing costs. Taken over a period of years, statistics show that 58% of the value of products is used for the purchase of raw materials, whereas only 13% goes for direct labor. Overhead and profits collectively are consequently 29%. Raw material prices have radically declined from their high point reached during 1919 or 1920. Sugar, the most important raw commodity, has declined 76% from a peak of 22 cents per pound wholesale to 5.3 cents. Chocolate, condensed milk, nuts, and syrup have all declined considerably. Almonds have declined 41%; walnuts, 25%; and cocoa bean, 68%. Consequently, with a few exceptions, it is doubtful if any further reductions will be noted in raw material prices. About the only saving that can be made in this factor is the elimination of any heavy inventories of high-priced raw materials carried over from last year.

The labor item has been slightly reduced. Some of our large manufacturers have cut wages 12½%. As a rule, this is an industry in which a large number of women are employed at relatively low wages. Despite the general downward trend in wages in many of our important industries, manufacturers will not cut wages to any marked extent next year. Such economies as can be effected from the labor standpoint will be caused by the *increased efficiency of the worker*, rather than actual wage cuts.

The big saving from the manufacturers' standpoint during 1922 will consequently be made in reduction of over-head expenses. Manufacturing capacity is more than ample to take care of the demand. Fuel costs, rents,

taxes, and insurance are still high. These items, especially fuel, will become easier in price and react to the benefit of the manufacturer. An increase in management efficiency, as well as factory efficiency, should be carefully studied at this time. Those manufacturers who are able to reduce their overhead expenses during the first half of 1922 should not fear competition during the manufacturing season next summer and fall.

Demand

Demand, both domestic and foreign, will be fairly good. It will not approach the abnormal period of 1919, but should be as good as this year and possibly better. General business conditions, which will improve next year, will increase the spending power of the public. This increase in business will be reflected in a better demand for candy. This demand, however, will be confined largely to the good quality, medium-priced goods. In fact, it is estimated that 80% of the entire output of candy is sold by manufacturers at prices under 25 cents a pound. The outlook is best for producers of this popular type of candy.

Foreign demand increased rapidly after the close of the war and reached a peak in October, 1919. Since that time there has been a steady decrease. There has been a seasonal increase during the last few months, and we look for fairly good exports during the winter and early part of 1922. For the first ten months of this year our exports of confectionery were valued at \$1,400,000. This compares with a value of \$5,570,000 for this period in 1920 and \$9,103,000 in 1919. The pre-war value was approximately \$1,000,000.

Summing up, we believe that the worst of the readjustment in the confectionery industry is over but that a state of equilibrium has not as yet been reached. Competition will continue keen throughout 1922 and will be the greatest problem the manufacturer has to meet. The producer of medium-priced good quality confectionery who is able to reduce overhead expenses and maintain relatively low wholesale prices should experience a good year in 1922.

Optimism—Our Middle Name

... This house extends to THE CANDY MANUFACTURER the compliments of the season and believing that we detect a strong motive of optimism interwoven into the spirit of your publication, we feel that it is the biggest element that can enter into the fabric of business today: *optimism* translated into action and guided by *common sense*.

SPENCER IMPORTING CO.



Coloring Material In Confectionery

(Continued from page 21)

example, in case of Amaranth by addition of Light Green S. F. Yellowish to produce dark purplish-red and prune shades.

Mixtures are sometimes unsatisfactory because of effects due to unequal solubility of the components. Thus, under the influence of micro-organisms a product colored green by the use of a mixture of yellow Tartrazine with blue Indigo Disulpho Acid may become yellow, because of the more rapid fading of the indigo, while, on the other hand, a green obtained with Light Green S. F. Yellowish will, on fading, merely become paler.

Solutions of the food dyes like those of most other coloring matters vary more or less in hue, depending upon the concentration or on the amount of coloring matter in the passage of the light. Strong solutions of Tartrazine appear yellowish orange, while weaker ones are yellow, and highly concentrated solutions of Light Green S. F. Yellowish may show a redish color in transmitted light, the effect being much more pronounced, however, if the green is rendered duller by addition of Orange I or of Amaranth and Tartrazine. In general, this variation in hue with varying concentration is likely to be most striking with the mixtures.

Factors in the Selection of Color

The stability, solubility, coloring power and price, as well as the hue, of each of the dyes must be considered in selecting those most suitable for a given use and a comparison of the properties of the different coloring matters shows that in any given case some compromise among the factors is required to gain the maximum of desirable qualities. Naphthol Yellow S and Tartrazine, the two yellow dyes, differ slightly in shade, Naphthol Yellow S being a clear full yellow while Tartrazine is a trifle more orange. On this round Naphthol Yellow S should give clearer greens and yellowish greens than Tartrazine when mixed with Indigo Disulpho Acid or Light Green S. F. Yellowish, while for the preparation of orange mixtures from one of the permitted reds, Tartrazine might be more suitable. Naphthol Yellow S becomes paler in acids, however, and this, together with its bitterish taste, has limited its use. Browns (which may be considered to be very dull yellows) are produced when the yellow dyes are darkened by mixing with a dye, or with a combination of dyes which alone would give either black or the complementary hue, violet. One of the reds with Light Green S. F. Yellowish or Indigo Disulpho Acid gives such a combination.

Amaranth is the most blue of the permitted red dyes and, like Tartrazine, it is readily soluble and reasonably stable. Ponceau 3 R is slightly less soluble but gives a clear scarlet of good stability. Orange I is less soluble and is probably somewhat less resistant to decom-

position than the others. Erythrosine, which is intermediate in hue between Amaranth and Ponceau 3 R, much exceeds either of these coloring matters in clearness of color tone, being in fact one of the most brilliant of all red dyes. It is for this reason that it is used in spite of its high price for the production of rose and delicate pink shades. It is less fast to light than either of the other reds but seems to be more stable in certain manufacturing operations. It is readily soluble in water.

Indigo Disulpho Acid gives a fairly clear full blue. The purples and greens obtained from it are not very bright, although probably are satisfactory in this respect. The relative insolubility of the dye and the readiness with which it undergoes change in dilute mixtures renders it unsuitable for some purposes.

Light Green S. F. Yellowish is a very soluble green of high brilliancy and although it becomes paler in slightly acid solutions it is considered a stable food color. It is quite sensitive to alkali.

All of the soluble dyes just named are probably somewhat altered by contact with alkaline substances. The addition of ammonia or sodium carbonate to their solutions brings about marked changes in hue. This fact, however, seldom gives difficulty in their application as food colors since most food products are neutral or slightly acid.

A comparison of the tinctorial or coloring power of dyes of different hues can be made only on the basis of rather arbitrary assumptions. The eight coloring matters here discussed do not differ from one another greatly in this respect, but Erythrosine, Orange I and Light Green S. F. Yellowish rank slightly above Ponceau 3 R and Indigo Disulpho Acid and distinctly over the yellows and Amaranth in coloring power. However, it appears that in actual use the stability and clarity of hue are of more importance in determining the amount of coloring matter necessary to give the best effects than is the depth of coloration which is produced under ideal conditions, by a given concentration of dye.

Formulae for mixtures of the straight dyes that will give desired intermediate shades may be found by preparing 0.1 per cent solutions of components and mixing these with one another and with water to obtain approximately the hue and depth of color desired. The dyes are then tried in the same proportion in the food product to ascertain whether or not they are stable under the conditions of manufacture and if they are not fully so, to determine how the recipe should be modified. Since a number of factors must be considered in making suitable mixtures, probably but few confectioners prepare them for their own use at the present time. Dyes already mixed may be bought directly from the color houses who have developed satisfactory formulae of almost any desired shade.

(Continued on page 47)

V—Brazilian Cocoas

The fifth article in a series on the history and qualities of Cacao Beans

by Emil Pick

IN this article we are writing on cocoa beans that come from Brazil. One grade is *Bahia*, and the other *Para*.

Bahias

This cocoa is divided into three grades: *Superior*, *Good Fair* and *Fair Fermented*.

The crop lasts from September through February, although weather conditions may advance or retard the crop.

SUPERIOR BAHIA should be a fairly bold bean, with a rich brown break and mild in flavor. It is very rich in butter, and under normal conditions should be free of defect, although when the crop season is very rainy defect is something apt to appear. In price this grade, under normal conditions, ranges from $\frac{1}{4}c$ to $\frac{1}{4}c$ higher than fine St. Thome African, although crop conditions may have a tendency to reverse this. Bahia and African can be substituted one for the other, and it is a safe cocoa to buy to arrive from the well known Bahia importers.

GOOD FAIR BAHIA is the second grade of Bahia. With crop conditions good, it is a safe cocoa to buy to arrive. The break is not so good as the Superior, and it does not contain so much butter, although it is a good butter bean. At times it contains some defect, but at times when conditions are good it is a sound, good cocoa.

FAIR FERMENED BAHIA is the lowest grade of Bahia, worth from $\frac{1}{4}c$ to $\frac{1}{2}c$ under Good Fair. With conditions good it is a safe cocoa to buy to arrive, but as it is the lowest grade of Bahia, it is very apt to contain defect, and when the season is rainy it is not wise to buy this to arrive, unless under a guarantee.

BAHIA is one of the most popular of all cocoas, and is used in very large quantities for the cheaper grades of cocoa and confectionery, and also to reduce the price as a filler when other higher grades and more expensive cocoas are used.

BAHIA cocoa has many peculiarities. One thing in particular that is very important to the manufacturer

of cocoa powder is that if he wants to Dutch cocoa powder, getting a very dark red color, Bahia is most essential, as for the process through which the cocoa is put this grade of cocoa will give the color desired.

It contains a large quantity of butter, and also has a very fine color for coatings and liquors. In past years it has been very safe to buy this cocoa to arrive, but during the last three years, owing to weather conditions in Bahia, the cocoa has been affected by what is known in the trade as a ham fat or smoky flavor, and unless used properly it is practically impossible to eliminate this in the roast. The weather at the beginning of the crop is so rainy that fires in the open are used to dry the cocoa, and this has been very detrimental to it. Therefore, in buying Fair Bahia, and some of the Good Fair, one must be very, very careful to see that this is not in the cocoa beans. It requires a lot of care in selecting this cocoa in our market, and unless properly sampled, is liable to cause a little trouble between buyer and seller. The Superior grade has been most fortunate in being free of any trace of this smoky flavor.

The general crop of Bahia cocoa runs between 400,000 and 850,000 bags. As a rule it is safe to buy this to arrive after July and August. In fact, the arrivals the latter part of November until March are always good, and in some cases it is hard to distinguish the Fair Fermented grade from the Good Fair.

In order to get the color desired, it is sometimes essential to use Bahia, and as this cocoa is at a prohibitive figure at times (and should a manufacturer have a small supply on hand), it is safe to substitute F. F. Acera, if the quality is satisfactory, and use with the Bahia. This refers to the Fair and Good Fair Bahia, but sometimes, if properly manipulated, the F. F. Acera can also be mixed with Superior. This all depends upon the price of the two cocoas. Today the price between Bahia and Acera varies from one to two cents a pound.

For Superior Bahia, Fine St.

Thome can be substituted, but since the war Fine St. Thome has been limited in importation to our market.

This must be reconsidered again, and upon proper inquiry we can have this cocoa imported to this market again, as well as another grade which has practically been forgotten, namely, Kameroon, or Cameroon.

I would be pleased through this magazine to give any information possible pertaining to this cocoa.

Para

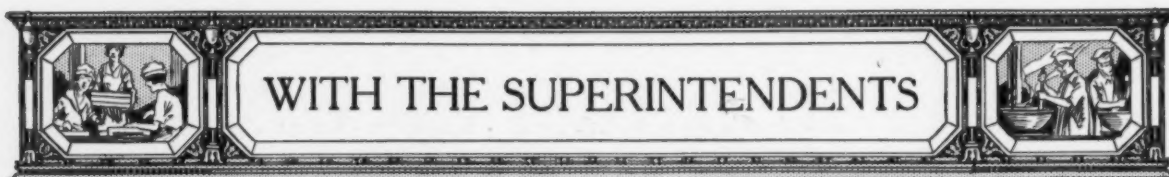
PARA comes from Brazil and cannot be substituted by any cocoa grown, as it has a peculiar flavor and is used exclusively as a mixer, particularly in the confectionery business.

PARA, somewhat of the appearance of Good Fair Bahia, has a peculiar flavor of its own, and ought to have a nice brown break. This cocoa is in good demand, and the price is generally governed by market conditions. The quantity received is somewhat limited, as a good deal goes to Europe, where it is used extensively, as here, as a mixer with high grade cocoas. On account of the climate in which it is raised it has a tendency to be somewhat defective. It is rather risky to buy to arrive, except on a guaranteed sample. It is the most neutral of the cocoas.

There are two grades of this cocoa, **UP-RIVER** and **DOWN-RIVER**. **UP-RIVER PARA** is the safest cocoa to buy for shipment, as it contains at the early pickings a certain percentage of defect which has always been known in this cocoa. **DOWN-RIVER PARA** is practically useless, except it can be used for cheap goods. It contains a very large percentage of defective beans, and, from my experience, contains more green mould than any other cocoa beans received at this market, and this is very, very bad, as it cannot be eliminated in the roast.

The quantity is limited, as Francee is a large consumer of the fine quality. The importation during 1920 was 17,000 bags.

(This series continued in next issue)



WITH THE SUPERINTENDENTS

Getting Production off the Gas Vacuum

George J. Armstrong

Superintendent, McKusick Towle Co.

Mr. Armstrong practically completes the batch on the coke fire and finishes on the vacuum. His high production mark is forty-seven 85-pound batches per nine hour day.

I AM a candy factory superintendent and I do not pretend to be a magazine writer. I think, however, that I should know enough about the Gas Vacuum Cooker to be able to give fellow superintendents and candy makers some valuable information in its operation in the production of both quality and quantity goods. We were among the first to use the Gas Vacuum Cooker for the cooking of high grade hard candies and have been operating this one machine continuously for about six years.

When we bought this machine the unit contained but one kettle, in which we did our cooking by gas up to a certain degree of temperature and then we applied the vacuum and were able to turn out a batch of 85 pounds in about 28 minutes. We soon found that this would not meet our production requirements and were obliged to continue our coke fires to keep up our necessary quantity. We then discovered that by the use of extra kettles we could do our preliminary cooking over the coke fire and then move the kettle onto the Gas Cooker, pull the vacuum and finish the batch.

In a comparatively small factory such as ours, we figure that when we can turn out in one nine-hour day from one Gas Vacuum Cooker forty-seven eighty-five-pound batches, we are going some, and I think that you as a candy man will agree that is some speed, and that 4,000 pounds per day from a Gas Cooker is some production. Of course, we do not get this speed every day, but it shows what can be done if you will take time to study the possibilities of the Gas Vacuum and drive it to the limit, which, by the way, does not hurt your machine. The only word of caution that I would give any candy maker using a Gas Cooker is to keep his pump well packed, his grease cup on the pump shaft well filled and turned down and to always have an extra gasket on hand, for in the constant

use of the Cooker the gasket will wear, but replacement of same is simple and no time lost, and, on the other hand, if your gasket wears out and you have none, you are out of luck. Aside from the above, the Cooker is as free from repair as any machine in our shop.

I mentioned above the fact that we cook on coke fire, and this is because we feel that we can get, with an air play to drive our fire, a flame that will come up over the side of the kettle and gives an all-around cook without burning, and, as stated above, we get our production off the Gas Vacuum by practically completing the cook on the coke fire and finishing it off on the Vacuum, taking about six minutes with twenty-seven inches of vacuum. I don't know anything about steam vacuum. You fellows in steam plants can dope that out for yourselves.

With a Gas Vacuum Cooker we turn out a dry satin finish piece of goods that is a wonder and will keep its luster longer, will keep dry longer and keeps our customers longer.

If you are ever obliged to load a batch with corn syrup, you can go the limit in that direction with the Gas Cooker. However, when loading your batch with corn syrup, it is necessary to use caution and not allow the vacuum to pull too fast. The reason for this is that glucose foams more readily and with the tremendous amount of vacuum this little machine pulls, it rises faster in the kettle. A teaspoonful of fat is one preventative, but ordinary common sense will do as well to prevent it.

In a careful examination of the refuse that our Vacuum throws off the batch, we have found that there is a color and an odor, and when we pour the batch on the slab, we get a clear and odorless product, devoid of any impurities, showing that the color and quality of the batch as well as its susceptibility to flavor is largely improved by vacuum.

There are certain grades of candy which I would not think of trying to cook with any other equipment.

I will be glad to exchange experiences and compare notes with my fellow superintendents on the subject of vacuum cooking or any other phase of factory management.

Originality

For some considerable time there has been a decided tendency among manufacturers to imitate the merchandise of others. As a natural consequence there has really been very little of what one would call *new pieces* on the market.

It seems, too, that there is really a desire on the part of the manufacturer to have something new and I believe that the factory superintendents are more than willing to try to develop something.

There is likewise a tendency, "due in part to this desire," to crowd more items into the price list than there really should be, for in most cases the larger the variety the greater the cost per item, and as these items are produced chiefly to compete with a similar item that has probably been out long enough to have caught on with the public and which is likely a specialty with the competitive house, there is very little chance of the imitator being able to produce this item satisfactorily and at a profit.

It seems strange, too, that this should be a condition, as this is supposed to be an age of specialization. Nevertheless most of the factories are trying to produce everything that every other one does and in some cases in utter disregard of their comparative equipment and conditions.

Instead of developing a winner of their own that is distinctive and peculiar to their own methods and equipment, it seems that they prefer to either try to copy the current favorite with their present layout or install some expensive equipment that is very apt to cause a red ink balance for the department for a long time to come.

Chances are that every one of these plants has several good items already that with a little changing, a new name or a new package, and an aggressive merchandising plan could easily become real winners.

(Continued on page 51)

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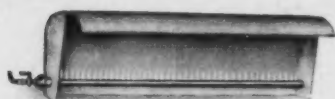
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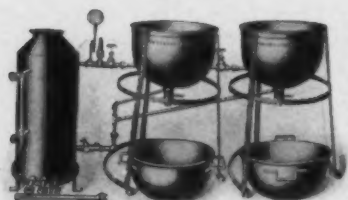
ON THE ENTIRE LINE OF

CROLL'S CANDY MACHINERY?



GAS BATCH WARMER

Lined with heavy asbestos board,
\$16.50



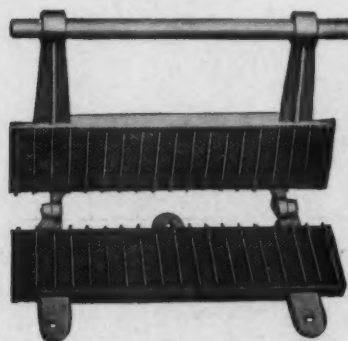
HIGH PRESSURE TUBULAR STEAM BOILER

With 3-Burner Gas Generator

for cooking Caramels, Nougat, Fondant, Fudge, Kisses, Taffy, etc. Tested 200 lbs. pressure. Will supply enough steam for three 25-gallon steam-jacketed kettles, all working together. Can be used singly as well as in battery. Ideal for the man starting in. He just buys one outfit, and as he grows he buys an additional kettle and connects it right to the one he has, and the third to the second, etc. Saving Gas, Time, Space. Will not burn the candy.

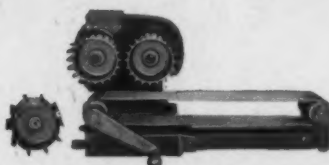
Price, \$175.00

Prices of kettles and stands according to size.



WAFFLE CUTTER

\$27.50

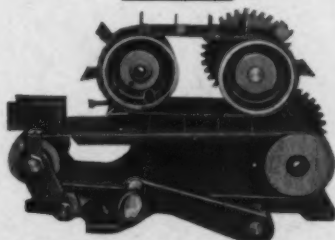


CONTINUOUS HARD CANDY CUTTING MACHINE

A real time saver. A man can work through a batch of Buttercups or Peach Blossoms or other hard candies in about half the time it takes doing it the old way. Instead of pulling the blades out each time a change of size is desired, all you have to do is to change the cutter rolls. Made either for hand operating or with a connected motor which can be attached directly to an electric light socket.

Price of Hand Machine with one set of rolls, \$75.00

Price per set of Extra Rolls, \$15.00
F. O. B. Bridgeport, Conn.



CONTINUOUS FLAT BASE CANDY CUTTER

For Chips, Golden rods, Honey Combs or any other flat base piece of candy.

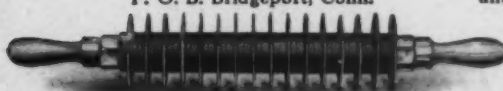
Changeable Belts with Cutters Attached. Will cut flat base pieces from $\frac{3}{4}$ in. to 4 in. long.

This little machine will be a real saving to any man using the old-style cutters for making any size piece of candy with a flat base. Will cut most any desired length and can be speedily changed from one size to another by merely changing the cutter belt. Each machine is furnished with four changes of belts and different spaced cutters. Can be had with handle for hand power, or with direct connected motor which can be connected to an electric light socket.

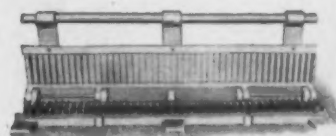
Price for Hand Machine complete with Cutters, \$65.00

Price for Motor-equipped Machine complete, \$110.00

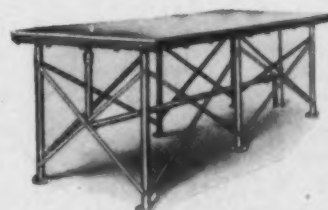
F. O. B. Bridgeport, Conn.



ADJUSTABLE CIRCULAR KNIFE CUTTER



ADJUSTABLE BUTTERCUP CUTTER
-32 in. long, 186 blades, \$32.50



ALL STEEL CANDY COOLER

Built to last a lifetime

One-piece body with welded corners.
Made in all sizes

Shipped complete with Stand



CROLL SUPERIOR CREAM BEATER

Belt or Motor-Driven

Made in 3, 4 and 5-foot sizes

"Croll" Cream Beaters, equipped for direct connected motor drive, make a neat, compact unit. Motors are attached directly to the bottom of the beater. This method allows less vibration, and motors are positively in line with gears.

Each machine is carefully inspected before leaving the factory and guaranteed to do the work perfectly.

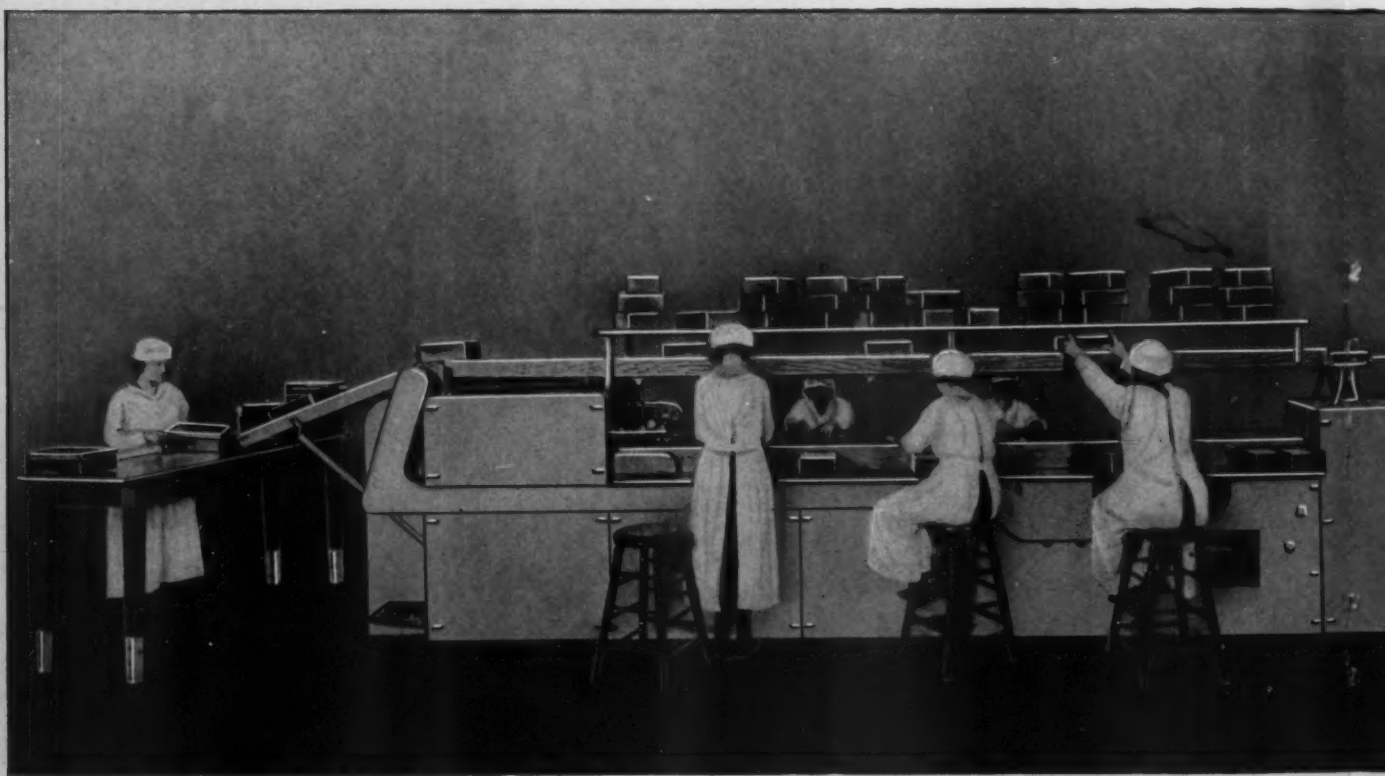
Three foot and 4 foot motor-drive machines are equipped with steel worm gears, running in oil, and Fabroil gears on motor shaft. This insures quiet running. Five foot machines equipped with double worm gears in oil, running noiselessly.

CROLL MANUFACTURING COMPANY
BRIDGEPORT, CONNECTICUT

Enrober and Sch

a National

for coating, cooling



THE COMBINATION of the Enrober and Schrafft System forms the only modern, thoroughly sanitary and efficient unit on the market for coating and packing centers.

ENROBER. The centers are placed on a short belt and automatically fed into the Enrober, where they are coated and delivered onto waxed paper plaques. These pass through a partition into the cooling room, where they are transferred from the Enrober belt onto a metal tray, which is then placed in the Schrafft System.

SCHRAFFT SYSTEM—COOLING. The goods, is placed in the machine it descends by a motor, blower and driving mechanism to another machine. Here it is raised by an elevating to another series of elevators, which again minutes in this manner through the cold air the packing tables and passes between the packed.

Ask to have your name put on our list for Candy Ne

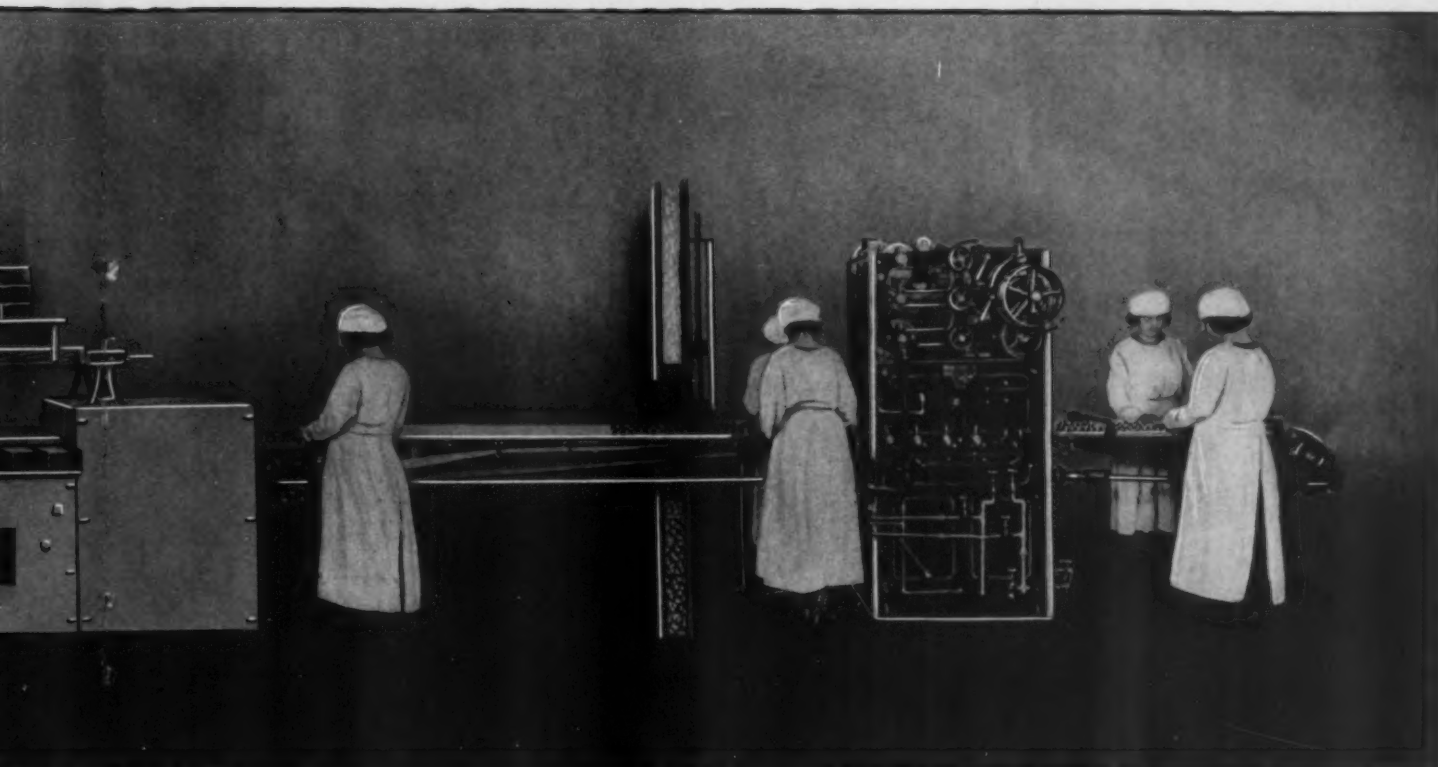
NATIONAL EQUIPMENT CO.

Largest Manufacturer of Candy Machinery in the

Schrafft System

al Equipment

ooling and packing



COOLING. When the tray, containing the paper of
ine it descends, whence it is carried under the
mechanism to about two-thirds the length of the
an elevating device, kicked over one tray length
a, which again lower it. After traveling for 23
gh the cold air, it is then raised to a level with
es between the latter, cooled and ready to be

SCHRAFFT SYSTEM—PACKING. An endless conveyor belt is provided
on the top, upon which full boxes may be placed for transporting them to the
end of the machine; this avoids the necessity of climbing between machines
to collect the filled boxes, and enables the machines to be placed close to-
gether. In other words, one for each Enrober. On top of the conveyor is a
stationary shelf for holding empty boxes, paper and cardboards. The trays
are removable, allowing for the easy transfer of the plaque papers. The
machine is sold either with or without the conveyor delivery.

For Candy News, our monthly publication to manufacturers.

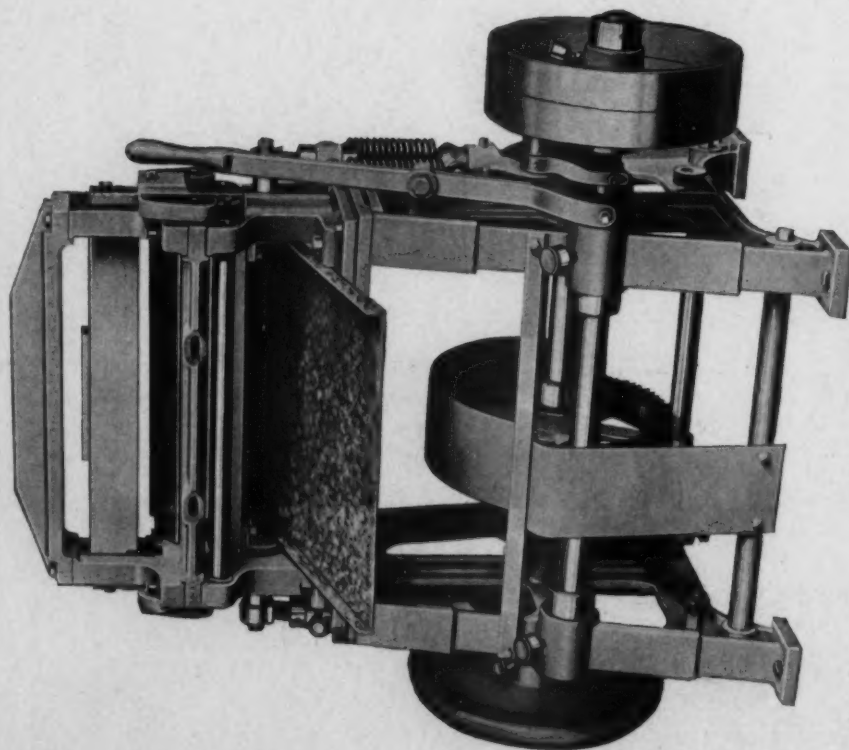
Manufacturer of Candy and Chocolate
Machinery in the World.

SPRINGFIELD, MASS., U. S. A.

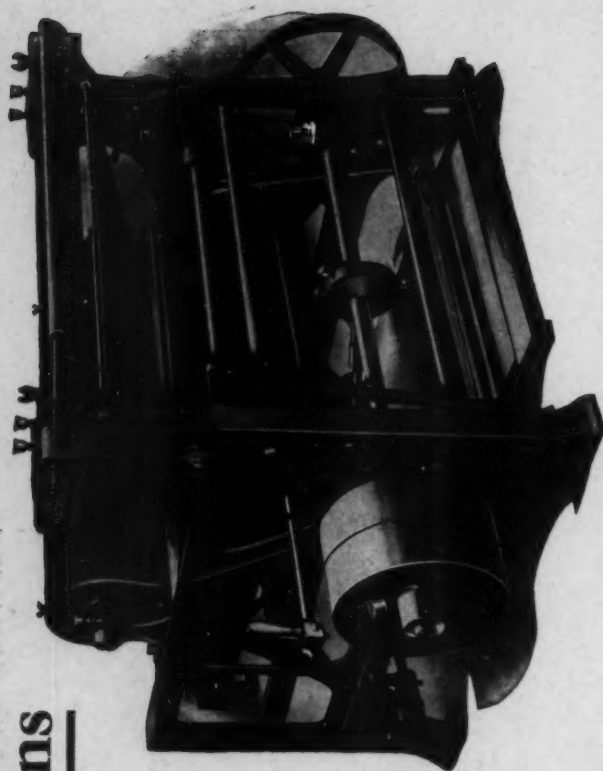
These Two Valuable Additions

¶ "The Power Filled Goods Press" for producing Berries, Clams, Peas, Asparagus, Pineapple, Peanuts, Acorns, Leaves and other quality filled goods, that command a price with a substantial profit.

FORTIFY YOUR HARD CANDY LINE



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SEMI-AUTOMATIC HARD CANDY MACHINE

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¶ Over 300 Semi-Automatic Hard Candy Machines are in constant operation in the leading plants of America.

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Pacemaking as Applied to Machine Efficiency

by Fred W. Amend, Jr.

Secretary, Chicago Association Confectionery Superintendents

THERE has been so much said about efficiency the last few years, the word "efficiency" has been subjected to so much abuse, that one hesitates to use it.

With business slow a good many people do not feel interested in increasing the production, but would rather find some means of disposing of their present output. However, there is always a keen interest in labor saving, and machine efficiency and labor saving are very closely related, though not twins.

It isn't always possible in increasing the output of a machine to decrease the labor cost per pound or per box. In some instances a saving in labor is effected, but it usually takes place after the output is increased considerably. To attempt to cut the labor cost at the start is to invite failure.

Machine efficiency, like any other efficiency depends on the human equation and unless there is co-operation and co-ordination in the factory efficiency of any kind is impossible.

The first step to be taken is to teach the foreman of a department that it is just as easy for him to run double the amount of goods, and that the way to accomplish the extra production is to increase the output of the machinery—not to double his individual effort.

Almost every machine is capable of turning out more than it does, and it is up to someone to take the time to study it out. This is not accomplished in a day or a week, but it can be done if a little patience is used.

Make Some One Machine "Set the Pace"

Every day we hear of some particular machine turning out prodigious quantities of candy, and say, "How do they do it." When a machine is delivering huge quantities of goods every day, that machine is part of a system. Take any machine in an establishment, make it the pace-maker, and you will be able to turn out quantities never dreamed of.

Probably the first "pacemaking" used with any marked degree of success by American manufacturers was

that of the Singer Sewing Machine Company. This same idea is being used in hundreds of factories today. The Ford plan of assembling cars is based on this idea; all operations are tuned to the conveyor; each operation is performed with the precision of clock work. That this idea is adaptable to the confectionery industry has been demonstrated time and again.

A Nougat, for Example

One of the most successful applications of this idea was in the manufacture of a nougat. Nougat that is light and chewy is just as difficult to make as any other confection. The greatest difficulty to overcome in count goods of this kind is to get the batches light enough and keep them that way, as it takes very little in the way of carelessness to "knock them down." It is surprising how sloppy a batch of nougat can be.

In this instance the mixer was used as a "pacemaker." Ten minutes was allowed for each batch in this machine, which was ample time to mix the first batch with the egg, add the second batch, grease, nuts, and flavor, and turn out. Two fast blast furnaces were installed for the high cooked batch, two small steam kettles for the low cooked, so that there was no chance of waiting for these batches.

The batches were thrown on water-cooled slabs (the water was never turned off during the day) rolled down to a size suitable for the sizing machine to handle and after they had cooled sufficiently were cut up and put in trays. Three men worked on this crew and turned out regularly sixty batches in ten hours. These three men put the batches together and dumped them on the slabs. Each man had his work to do and there was no confusion or stalling. The largest day's run was 73 batches in twelve hours. The batches weighed 75 pounds apiece and were uniform in every respect.

The average run in weight totaled 4,500 pounds. To an outsider this small crew seemed to be stalling. At first, though, it was a back breaking job and the men were very much dissatisfied. When the wrinkles were

ironed out and each man found the easiest way of performing his work, there was, instead, a feeling of pride.

In "ironing out the wrinkles" the method, generally known but seldom applied, was brought in play. The entire job was "dissected" and each operation, no matter how small, was taken under consideration. The stoves were moved, the mixer was moved, and so were the other appliances—not once, but several times, until the arrangement which saved the most steps was found. Convenience was the guide; everything had to be handy. The idea was to make the job easier, so that it would be easy to hold and easy to fill. Machine efficiency is the result of careful and painstaking planning.

Increasing the speed of any machine necessitates a speeding up all along the line. In this case the enrobers were unable to handle this amount of nougat along with the other items to be covered, and had to be speeded up.

Economies come gradually in unexpected and unforeseen ways, and materially reduce the labor costs. By employing men without experience it is possible to avoid the resistance usually met with where a set amount with old-timers constitutes a day's run.

The most fascinating work in a factory is that of increasing the output—especially when it is possible to concentrate on any one piece.

Every superintendent can point with pride to some department in which the output is running high; a department in which it is possible to concentrate on one or two items. It is unreasonable for a manufacturer to expect machine efficiency or volume in a department making a large diversified line, as one-third of the day is spent in changing the machines.

May we hear from other superintendents who will volunteer to express their own views and experiences on some phase of candy factory management.



Let's Understand Gelatine

by L. O. Thayer

What Is Gelatine?

A substance found in animal bones, tissues and membranes, whose distinguishing characteristic is that of dissolving in hot water and forming a jelly on cooling. It is insoluble in cold water, but absorbs five to ten times its weight, and is soluble in hot water.

What Are Its Characteristics?

Gelatine is the best and foremost example of non-crystallizable substances known as colloids. A colloid is an emulsifier or binder of different liquid elements. It may or may not have viscosity powers (egg whites have none), but it always makes emulsified elements smooth and even in density.

Gelatine is a food with little protoid content, but has a high carbohydrate value, almost equal to sugar, the best carbohydrate known. This gives heat and energy to the body, but does not build tissues.

Gelatine is assimilated by the stomach quicker and with less effort than any food known.

The chief value of gelatine as a food places it in a class by itself. It is a concentrated food *sparer*, being able to save from waste half of its weight of proteid; twice as effective as any carbohydrate. Thus its value in the daily diet far exceeds its cost, and we might say gelatine is the efficiency expert of the digestive process. Its value in hospitals, medical and dietary work has been recognized for years, but with little real knowledge of the scientific reasons here given in outline.

How Gelatine Is Made

A brief description of the scientific manufacture of gelatine will be necessary to show the extremely difficult operation of converting the natural gelatine from bone, skin and sinews into the finished product.

The operation of making gelatine occupies a period of a month to six weeks, continuously day and night. The raw materials are treated in the vat for many days with a weak solution of pure muriatic acid, to remove the mineral matter, such as phosphate of lime, magnesia and carbonate of lime, leaving the gelatine-bearing material intact. When the mineral matter is dissolved, the material is washed many times with pure

filtered water in order to remove every trace of acid.

The stock is then treated again and again with lime water. This removes any fats that may be present, loosens the fibres, releasing the gelatine and purifying it. Then the stock is thoroughly washed and is put into the boiling vat. Under constant and controlled temperatures the stock is boiled, which extracts the gelatine. The stock undergoes successive boilings—each succeeding one under higher temperature. As each run is made, the gelatine rises to the top and is drawn off. The first run always is the strongest, each successive run showing skimmings of less jelly strength.

The drawing off is transferred to vats in a cooled room where the thin mass congeals. It is then cut into sheets and placed on nets over wooden frames. These frames are put into a long alley into which is introduced a strong current of hot, dry air. This removes the greater part of the moisture in the sheets. Then the sheets go into the grinder, from which comes the granulated gelatine, ready for use.

The process is now completed, except for the important work of testing and grading. Each run is tested by several chemists, independently, for chemicals and bacteria. In order that any errors or carelessness in the operation may be discovered, these tests should be severe and carefully checked. Every reliable plant has its standards of purity, strength and bacteria content, to which the product of every run must conform to a hair. Each skimming should meet the strength test of a similar skimming for many previous runs. When the results are verified, the grading is done and the ground gelatine packed into tight barrels and placed in a cool room for storage.

Legal Regulations for Gelatine

The United States is the only nation that has a definite legal regulation for the purity of gelatine. The allowances by law for chemicals in gelatine are considered severe in other countries; but the purity of gelatine made and sold under this law has improved to such an extent in the last ten years that the allowances are now regarded here as too high. The ultra-scientific and careful gelatine factories are now prepared

to, and do, manufacture a product far purer than the law requires. As a rule, the foreign gelatine houses do not care to meet the United States standards, and therefore their product does not enter this country.

Our gelatine factories should not be satisfied to turn out a product which is only "guaranteed to comply with the Federal and all State laws." There has arisen an insistent demand from pure food enthusiasts for a gelatine that is "purer than any food law." It is possible to manufacture gelatine practically free of chemicals and liquefying bacteria. This is a noteworthy advance in gelatine manufacture, for it proves that the present government allowances are too lax. These allowances at present are as follows, parts per million:

Copper	30
Zinc	100
Lead	20
Arsenous Oxide	1.4
Sulphur Dioxide	350

The strictest State law is in Pennsylvania, which excludes lead and added sulphur dioxide.

The Uses for Gelatine

Gelatine is used in ice cream, for table desserts, in marshmallows, in candy lozenges, in druggist capsules, fountain toppings, by bakers for icing and fillings, in canned meats and sausages, and sometimes in fruit jellies. All these are considered as food uses. There are many technical uses for gelatine, for instance, films, straw hats, etc.

There is probably more food gelatine used in this country than all the world put together. Perhaps England, Canada, France and Germany follow in the order mentioned.

The largest outlet for gelatine is in ice cream. Probably 90 per cent of all commercial ice cream contains gelatine. It has been used for forty years and as a staple supply for twenty-five years. More than five million pounds are probably used in this important industry. Nearly four million pounds are used for table jelly. The candy business likely consumes nearly three million more pounds.

No Substitute for Gelatine

In many of the industries quoted, there is and can be no substitute. Owing to the peculiar characteristics

of this colloid, it is apparent that nothing can take its place in certain lines of manufacture. In other lines, alleged substitutes have from time to time appeared, run their course and then disappeared. Gums and albumen are used quite extensively in candy making, but are losing ground rapidly as the manufacturers come to understand the mysteries and merits of gelatine. Fully ninety per cent of the big factories specializing in marshmallows and lozenges would not think of substituting for a high quality gelatine.

How to Buy Gelatine

There is lamentable ignorance about gelatine in nearly every big industry using it in large quantities. Every gelatine man can agree to this statement. Many men handling the colloid know little or nothing about the scientific, chemical or analytical details of this most important article; consequently, they are unable to impart much authentic information to the buyer. There are comparatively few recognized gelatine chemists or analysts, as it is a peculiar specialty in itself. Even these confess to a limited knowledge at present, compared to what ought to be known about this colloid.

When the Bureau of Chemistry put into effect its regulations for gelatine, only two scientists in the Bureau had made a special study of it. When told by gelatine plant workers that it would be hard to meet the conditions imposed—and almost impossible to do better than the allowance—there was no man in the Bureau at that time capable of declaring that gelatine could be made purer than the law. Yet the purity progress in some gelatine plants has been remarkable, and the development of scientific details and manufacture in the last few years can be characterized by no less an adjective than "wonderful."

Since the War forced up the price of gelatine, along with everything else, and the gelatine bills doubled, the big users have come to realize that they must know what they are buying and see that they get value received. There has been more critical buying in the last two years than all the previous period of gelatine usage.

There is a loud and insistent demand for all the gelatine information possible. It may be stated that the sources of information still are meager. It was only two years ago that the Association of Official Agricultural Chemists began to study gelatine, and this organization has yet to produce much light of a prac-

tical nature. Those with most knowledge of this article have dug, dug, dug until they are qualified to speak at least superficially.

The writer discovered years ago, in his intensive study of candy, that the majority of manufacturers knew less about gelatine than any other ingredient, although flavors ran a close second. With the installation of laboratories and the hiring of capable and experienced chemists, the larger manufacturers have learned a lot about flavors, and are saving money and selling an improved product. But gelatine is still more or less an unknown quantity.

The same statement is no doubt true of the ice cream, baking and packing industries. However, the table jelly and capsule makers know more about gelatine than all the other trades combined. They have had to dig up information and conduct exhaustive and costly experiments.

The first advice on buying gelatine is to know what you want it for and what results you expect. That may sound fanciful. Of course, a buyer has certain definite ideas about why he uses gelatine, but he must go beyond that and know just what characteristics the gelatine should have for his particular use. That entails study, and study is what every gelatine buyer needs, if he is to save money and gain satisfaction.

It may be stated offhand that gelatine buying in the past has been confined to two points; that buyers could be put into two classes—strength buyers and price buyers. The personal or friendship element has entered more or less into both classes of buying. The buyer on strength has advanced a step over the price buyer. Recently there has been another advanced step noted, and the strength buyer has gone into comparative tests for strength, purity and bacteria. Under this system, if the friendship element is eliminated and the purchase be on a cold dollars and cents basis, the buyer has reached the point where he will get value received, and thus practically eliminate his gelatine worries. The strictly price buyer—he always buys the cheapest—has no hope of satisfaction as long as he continues this policy.

Methods of analysis for purity are now available for any laboratory worker, and a simple jelly test for strength is as good as the more complicated. The bacteria test can be performed by any good milk chemist.

In certain trades, clarity is a prime consideration, and every buyer needs to be assured of absolute uniformity. Each consignment upon arrival

should be tested against the original sample, for strength, as a matter of self protection and in order not to disarrange the formula. It is a wise buyer who demands an analysis of the gelatine he buys, and he should make an independent analysis to check up the seller's claim. Naturally, a good buyer will demand a gelatine which is as near sterile as possible, as no candy manufacturer wants to introduce bacteria into a batch. Gelatine is a media that hatches bacteria more rapidly even than milk.

Bacteria in marshmallows causes the formation of gas, and this makes the goods unsalable. The candy will taste sour or the gas destroy the texture and flavor. Every marshmallow maker has experienced this trouble in hot weather. *Keep bacteria out of your product by every means possible.*

Later on we will give some definite rules for buying gelatine for your particular product, noting the characteristics needed. At this time a simple test will be given in order to determine strength and bacteria.

Strength and Bacteria Test

Weigh carefully 1/2 oz. of gelatine from each sample; put each portion into a beaker or tumbler holding a pint of cold water; put identifying numbers on the outside of glasses. This makes a 32 to 1 solution—quite weak—and weak enough to prevent low strength gelatine from solidifying. Put the gelatine powder on top of the cold water and let the glasses stand for 15 minutes. Then put the glasses into a bath or double boiler and turn on the heat. By constant stirring the gelatine should dissolve before the water in the bath reaches a temperature of 140 degrees. When the solution is clear and no traces of particles of gelatine can be seen, put the glasses into a refrigerator. The stronger gelatine will solidify first.

When the jelly is set, take the glasses out into a well lighted room. Note first the difference in color and clearness; then with the fingers press down on the jelly from glass to glass. The degree of resistance to pressure will give the comparison in strength. One can become quite expert with a little practice. A real expert can tell the difference to a fifth of a grade, and that's as close as the most complicated of mechanical or polariscope devices can come.

For the simple yet conclusive bacteria test, just allow these glasses of jelly to remain on top of your desk, covered up, and examine them twice a day. In holding the glass between

(Continued on page 45)

The Coconut Industry

The first article in this series:
"Production" appeared in Sept., 1921



The second article on "Manufacture"
was published in November, 1921

by Franklin Baker, Jr.

III—Consumption

DURING the last ten years, and particularly since the war started, the world has been discussing Food Values. Their rating in terms of calories, per cent of digestibility, or content of vitamins—the latest of these excessive scientific developments—has filled the reading and advertising pages of our magazines.

For war rations, this knowledge served wonderfully well; and today in solving the problem of starving Russia, we want to serve them with those foods that have the greatest nutritive value for the least money.

But, to what extent has this controlled our own living? In prosperous and extravagant America it has counted for little, for I believe we buy the things we like, provided they come within the limit of our means. We do not discriminate on the basis of cost per 1,000 calories, notwithstanding the fact that some of our advertising has endeavored to educate the public to this way of thinking.

Pies may be tabooed by some because they are said to be indigestible, and a brand of yeast may be used because it adds vitamins to the system. But the mass of people go along buying what they like for taste and flavor.

All nuts have high caloric values, and Coconut, with the Almond and Peanut, stands at the top of the list. Everyone today knows that nuts are the best possible substitute for meat, and a very considerable saving in the cost of living. But, in spite of this, the total consumption of all nuts is small compared with the consumption of meat.

Heads the List in Food Value

This is a strong argument for the use of Coconut, and yet has but little to do with its sale. Coconut pies,

cakes and candies are used because they satisfy a gastronomic desire. The Coconut has a very delicate flavor and stands quite alone. It has no substitute. The 90,000,000 Coconuts and 35,000,000 pounds of Desiccated Coconut imported annually sell because people like Coconut flavor. And yet, on the basis of food value, there can be presented the very strongest argument for its use. The following table, showing comparison of number of calories in staple foods, may be of interest:

2,760 Calories per lb. of Coconut				
1,640	"	"	"	Wheat Flour
975	"	"	"	Sirloin Steak
657	"	"	"	Eggs
310	"	"	"	Milk

The following table gives the comparative digestibility of the Coconut, in terms of the digestibility of some of the other articles, making up the combined or balanced ration:

Coefficients of Digestibility of Various Foods

Food	Protein	Fat	Carbohydrates	Total Food
Potatoes	71.9	....	93.0	90.9
Fish	97.0	90.0	....	96.0
White Bread ...	86.4	73.5	98.3	96.3
Graham Bread..	76.5	64.4	92.2	89.2
Milk	97.0	95.0	98.0	96.7
Bananas	76.0	....	97.0	95.6
Eggs	97.0	95.0	....	96.2
Meat	97.0	95.0	....	96.2
Rice	79.0	24.7	99.5	95.9
Beans	61.8	81.4	73.7	70.6
COCONUT	91.3	75.3	97.7	83.4

It has been said that Coconut is indigestible. Some years ago an Industrial Research organization made an experiment on living subjects, which has proved beyond any doubt that Coconut is quite as digestible as most products. Tests were run in periods of three days each. The first was to determine the digestibility of the basal ration alone, exclusive of the Coconut. The second period was

for the investigation of the same basal ration, with the Coconut combined. Everything that entered the bodies of the subjects and was voided by them during the test periods was carefully weighed and subjected to a most searching and exact chemical analysis. The results of the tests were carefully tabulated, and, taken as a whole, supply a scientific record of great value in connection with studies of this nature.

If a Coconut pie is indigestible, then the pie, and not the Coconut, should be blamed. In the same way candies are abused, and yet everyone knows it is not the fault of the sugar. Of all nut candies, perhaps none is more popular than Coconut. Surely Coconut would be the last thing to exclude in any line of confections. But to get the most out of Coconut, a good deal depends upon how it is used. Having a delicate flavor, a Coconut piece should not be dominated by something else. A Coconut cream is delicious with a chocolate coating, but a little Coconut in a piece three-fourths chocolate is lost. And hence its use for flavor means that only the very best grade of Desiccated Coconut should be used.

Were it possible to put up large cans of the fresh grated Coconut, with the Coconut Milk, the same as is put up in the small cans for domestic use, it would make the ideal way of handling it. But such method up to now has proven impossible, because a large mass cannot be properly sterilized. On the other hand, Desiccated Coconut has proven of wonderful value. It is cheaper on a per pound dry basis, surely much more convenient than whole Coconuts, and for flavor is thought by some to be better. However, a great many confectioners will buy the whole Coconuts, irrespective of the

(Continued on page 44)

The Sugar Situation



by Dwight O. Palmer

IT is unnecessary to recapitulate the happenings since our last review, as to do so would only be a lengthy recital of events we all know and are thoroughly familiar to us at this time and many of them forgotten, although they were of the utmost interest and importance at the time. Suffice it to recall that on October 22nd Cuban raw sugar was selling at $2\frac{1}{2}$ c C & F U. S. Atlantic Ports, or 4.11c duty paid. There is no doubt that the interest of practically the entire world has been centered on the Cuban situation and that it has been this situation that has governed the policy of all sugar people practically the world around and for this reason it is necessary to follow the course of Cuban sugar. Any action taken by domestic beet and cane producers or foreign or domestic buyers was and is now influenced by the possibilities of the Cuban situation.

The above price was maintained by the Cuban Sugar Finance Committee until December 13th, when it reduced its melt price to $2\frac{1}{4}$ c C & F, where it now stands. This "price day of melt" feature was one compelled by condition of oversupply and became a practical necessity in order to induce refiners to keep the sugars moving into consumption without danger of heavy losses by declines which conditions seemed to warrant with a large stock being carried over into the new crop harvesting period.

We have passed into the danger period and caution has been the watchword of sellers and buyers alike. The only freedom of action exhibited being initiated by the domestic beet interests in their selling activities, as well as West Coast and New Orleans cane refined interests, which have been met to a great extent by Eastern cane refiners, there being no halting influences in the free distribution of refined sugar outside of the control of raw supplies and prices to the Eastern Seaboard.

Prices have declined in natural consequence notwithstanding efforts to the contrary.

As we approached the period of new crop harvesting in Cuba the chances for successful marketing of old crop sugars at favorable prices lessened materially and continue to follow this trend in spite of spasmodic efforts to care for a goodly portion of these sugars by converting into unsold refined sugar. It would seem to the average mind that had Cuba been a free seller throughout the year and more particularly during the past two months and followed the trend of price conditions there would not now be nearly as difficult a problem to solve as we have at this time. The condition could be foreseen and natural steps taken to alleviate. But we now have a surplus of sugar in Cuba, needed in Europe, but upon which last minute remedies are being brought forward by the selling interests, as well as the political and governmental interests, most of which bring a false note with them, tending to continue the discord in the natural course of supply and demand. So that at the present time conditions are to a certain extent chaotic and at a time when a good part of the surplus is needed and could be disposed of if the powers in control would decide upon a definite course of action and give the best sugar minds an open field for future operations, unhampered by attempted regulations of supply and demand. The immediate future might be a sharp and serious one in its results for many, but the situation would stabilize of its own accord in a very short time and the sugar and allied industries would soon be on a firm foundation and plans laid for rebuilding.

New crop harvesting cannot delay absolutely because of lack of definite disposal of surplus stock. We therefore have thirteen Cuban Centrals grinding new crop cane and receipts at Cuban Outports of this new crop

of 3,715 tons. New crop sugars have found a market to some extent, the first sale being concluded on December 2nd at 2.02c per lb. F. O. B. Cuba and further sales since that date at prices down to $2\frac{1}{8}$ c C & F for prompt shipment and 2c C & F for January/March positions. However, the larger and more responsible sellers of new crop sugars are not willing to sacrifice their sugars so early in the crop, and that if any sacrifice is to be made at this time it must be old crop sugars overlapping into the period of heavier new crop production; old crop sugars being expected to care for the December/January demand. This latter is true to a certain extent, but not to the full power of buyers, who are withholding because of the danger of further declines the longer the sugar is held. New crops will not be forced to compete until granulated made from old crops interferes seriously with the marketing of new crop raws. It therefore seems logical that old crop sugars should be sold where the demand now exists at prices that buyers can feel assured cannot go much lower.

While the long postponed crisis is now before us probably larger than has appeared heretofore in its elements of danger, it would seem wise to decide immediately upon a liberal selling policy, by decontrol or not as they choose, move the sugar into channels where it is needed, take the temporary sting which all industries have taken since the war and prepare the way for future prosperity.

The balance of the Cuba crop is closely held, probably four interests owning 900,000 tons of the approximate 1,300,000 tons surplus. They, of course, are subject to present control by the Cuban Government, but their individual or combined efforts should evolve a practical plan of actual disposition of this sugar which

would reflect to the benefit of the entire sugar world as well as to themselves. The bulk of the sugar is needed and could be moved. A definite policy regarding the disposition of these sugars would automatically cause the coming crop to adjust itself to conditions. The article is cheap and buyers cannot go far wrong in taking up with it. Under present conditions buyers will continue to care only for immediate needs, making the future a greater unknown quantity. Europe needs sugar and would take it in quantities if a definite policy would come forth from the minds of sellers.

We may have decontrol any day with this surplus seeking a market. Prices no doubt will go lower for a time, but low prices automatically curtail production and cause proper adjustment in time. We are inclined to think this will be the case unless permanent tariff legislation furnishes an antagonistic incentive to produce and create ruinous competition for those instrumental in accomplishing overprotection of home industries through tariff channels.

All the foregoing may seem superfluous to many minds, probably by many manufacturers, but, unless the manufacturers are obtaining a price for their product at which they need not worry about the price of sugar, it is of the utmost importance. Open, unhampered, clean competition should prevail in all industries and then the responsibility of success or failure cannot be laid at the door of any particular agency and each business unit stands upon its own individual ability to survive upon its own merits.

Refined sugar is practically on a 5c basis, with much of the country under the spell of 4.80c sugars; 4.75c sugar is within the near future possibilities and, while it is no cause to worry consumers, still the many elements of uncertainty now apparent in the sugar situation, such as decontrol of Cubas, procedure of new crops both foreign and U. S. island possessions, tariff revision, etc., continue to depress prices and slow up business in sugar. We are hopeful of an early clarification of the situation. From present outlook we cannot expect any appreciable reaction in sugar prices until the latter half of 1922. Even then it will not be great, as sugar is at pre-war level, within the reach of all, and the present readjustment period ought to bring about a normal continuous movement of sugar, world wide in its beneficial effects.

December 20th, 1921.

The New York Sugar Market

At the present writing the market is quite active, with sales of about 110,000 bags of old and/or new crop Cuba sugar at 2c C & F New York. Many of these sales are new crop sugars for January/February shipment positions and the market is steady at this price for these positions. There is also quite some inquiry from foreign buyers and are willing to pay 1.90c F. O. B. Cuba, but sellers in these larger quantities are limited and are asking 2c F. O. B. Old crop sugars continue to be held by the Committee at 2 1/4c C & F day of melt. The Committee's European price is 11/6d. C. I. F. per cwt. and 30/50,000 tons have been recently sold on this basis to Europe as well as three cargoes to the Far East at the equivalent of 2c F. O. B. Cuba. While the Committee has announced that it will be dissolved, probably as of December 31st, by Cuban Presidential Decree, this decree has not as yet been issued and the Committee will continue to sell old crop sugars until the date named in the decree. There is considerable buying interest being shown by foreign countries and, while it is acknowledged that old crop sugars will necessarily have to be sold cheaper, this buying interest is seeking new crop sugars and it is expected same will hold the new crops steady unless granulated made from the cheaper old crop raws later on should become a serious factor in competition. Raw sugars are being sold from day to day and at these prices indicates that the situation is fairly well discounted.

Porto Ricos and foreign sugars other than Cubas have not come into the market as yet and are not a factor at this time.

Refined export prices are 3c F. A. S. for shipment during January, February and March. The demand has fallen off somewhat owing to uncertain conditions, but is expected to revive shortly, as Europe is or will be in need of refined sugar from the United States.

Domestic refined prices are unchanged at 5.10c less 2%, but concessions at consignment points at times brings the price close to 5c. Domestic beet refined and West Coast cane refined has been selling as low as 4.80c basis. Business is quiet, being for immediate requirements. A further moderate decline may be looked for, but prices are very near a stabilizing point.

December 20th, 1921.

Sugar Notes

Latest advices from Cuba report 13 Centrals now grinding new crop cane and receipts at the Outports of 3,715 tons. Old crop stock at the Cuban Six Ports and Outports is reported as 929,422 tons.

The Porto Rico grinding season commenced on the 14th of December, Centrals Aguirre and Guanica starting on that day.

The recent proposition of Seaboard cane refiners to refine a quantity of old crop Cubas "in bond," the Government to waive the duty payment, seems to have met with failure. This is a very logical thing for the Government to do, thus releasing millions of dollars belonging to refiners that are continually tied up in duties and not obtainable by refiners in the way of drawback until months after the refined product has been exported. Special legislation is necessary to make this operative, but it is generally believed that it will not be accomplished.

Hearings on the Sugar Schedule of the Permanent Tariff Bill are to be held this week and it will be interesting for those connected with sugar in any form to follow these proceedings closely.

It is interesting to note that recent sales of Cuban sugar have been made to Japan and China and at present Portugal is inquiring for Cuban sugar.

The Coconut Industry

(Continued from page 42)

price and the trouble of handling them.

It is undoubtedly true that a very large amount of Coconut in the various forms is consumed, especially during the fall months, when Coconut varieties are in the greatest demand. It is also the time when the domestic manufacturer receives his maximum business, and it is seldom during the months of October and November that he can fill his orders promptly. This year the demand has been heavier than expected, and as a result the prices of Coconuts have jumped nearly fifty per cent. The planters in the tropics are aware of this fall demand, and almost invariably anticipate it by jumping their prices.

Coconut Products are very generally used throughout the world, and the demand for same is on the increase.

Let's Understand Gelatine

(Continued from page 41)

you and the light, you will see, in some gelatines, little white spots in the jelly. They are bacteria developing.

In some gelatines these colonies can be detected in six hours. This indicates a gelatine containing many millions to the gram. It is very bad, as the bulk of these bacteria are B. Coli. A gelatine may go twenty hours before showing signs of colonies. This means a bacteria content of perhaps five million to the gram. If a sample is clear up to twenty-four hours, it means three million, roughly; if good for thirty-six hours, it means two million.

Now, if a sample can be kept at room temperature for several days without signs of colonies, you have a gelatine that is practically sterile. That is worth while buying.

As you examine the glasses from time to time, you will note that the growth of colonies has a marked effect on the solidity of the jelly. By shaking the glass you observe that the jelly is rapidly turning to liquid, meaning by this that the strength of the gelatine is being eaten by the bacteria. Who wants to buy a gelatine that cannot hold its strength until your goods are on the market?

If you are proud of your product and proud of your buying acumen, you will insist upon the purest and most uniform gelatine coming into your plant.

Some Observations

Marshmallows made with low bacteria gelatine will not ferment and will stand up in hot weather. Strong gelatine will not make a bad batch good. *Don't use too much.*

The less corn syrup and the more sugar, the less gelatine required, and vice versa.

For weight goods, use more glucose and more gelatine.

For count goods, use more sugar and less gelatine.

Don't use too much sugar. Many plants are doing it.

Larger proportions of sugar give lightness and shortness. The addition of a little dry sugar at the end of beating will give shortness.

You can lighten your batch at the end of beating by adding a pint of water at a time. It may require more.

You must use from a quarter to a half pound more gelatine on a hot day than in winter weather.

Be careful of your recipes in experimenting. Weigh everything. Test for temperature. Be sure the starch

is right. When you have goods that are perfect, only change the recipe, as far as gelatine is concerned, for hot

or cold days. Weather has much effect on the making of uniform marshmallows.

Technical Books You Should Know About

THE MANUFACTURE OF CHOCOLATE, AND OTHER CACAO PREPARATIONS.

Paul Zipperer. Third Edition, rearranged, thoroughly revised, and largely rewritten. Edited by Phil. Herm. Schaeffer. 132 illustrations, 21 tables, 3 plates. 7 x 10, leather. 345 pp. New York, 1915. \$7.50

Contents: The Cocoa Tree; The Manufacture of Cacao Preparations; Ingredients Used in the Manufacture of Chocolate; Examination and Analysis of Cacao Preparations; Installation of a Chocolate and Cacao Powder Factory.

COCOA AND CHOCOLATE. Their chem-

istry and manufacture. **R. Whymper.** 19 illustrations, 3 plates. 7 1/4 x 10 1/4, cloth. 330 pp. Philadelphia, 1921. \$10.00

Contents: History, Botany and Agriculture of Cacao; Manufacture of Chocolates and Cacao Powders; Chemistry of Cacao; Survey of the Components of Cacao and Chocolate; Methods of Analysis.

FOOD ANALYSIS. **A. G. Woodman.**

Typical Methods and the Interpretation of Results. 108 illustrations. 5 3/4 x 8 1/4, cloth. 520 pp. New York, 1915. \$3.50

Contents: General Methods; Microscopical Examination of Foods; Food Colors and Preservatives; Milk and Cream; Edible Fats and Oils; Carbohydrate Foods; Cocoa and Chocolate; Spices, Cider Vinegar; Flavoring Extracts; Alcoholic Foods.

HANDBOOK OF SUGAR ANALYSIS. **C. A.**

Browne. A practical and descriptive treatise for use in research, technical and control laboratories. 200 illustrations, 25 tables. 6 3/4 x 9 1/2, cloth. 980 pp. New York, 1912. Net, \$6.00

MANUAL FOR THE ESSENCE INDUSTRY.

Erich Walter. Illustrated. 6 1/4 x 9 1/4, cloth. 431 pp. New York, 1916. Net, \$4.00

Contents: The Taste, and the Transfer of Flavor to Foods and Beverages; The Raw Materials Yielding the Different

Tastes; Laboratory Practice; Non-Alcoholic Beverages; The Manufacture of Liquors, Liequeurs, Spirits and Other Alcoholic Beverages; Confectionery, Bakery and Culinary Essences; Coloring Matters for Foods and Drinks; Cosmetic Essences.

COMMON-SENSE CANDY TEACHER. **Ja-**

cob Friedman. With a supplement by Wm. H. Kennedy. *Second Edition.* 6 x 8 3/4, cloth. 391 pp. Chicago, 1911. Net, \$10.00

Contents: Common-Sense Talks; Talks on Material; Formulas; Cream Work; Gum Work; Ice Cream, Ices, Sherberts, etc.; Sensible Suggestions.

THE MANUFACTURE OF PRESERVED

FOODS AND SWEETMEATS. **A. Hausner.** Translated from the German of the third enlarged edition. *Second Edition.* 28 illustrations. 5 1/4 x 7 1/2, cloth. 246 pp. London, 1912. \$3.50

A handbook of all the processes for the preservation of flesh, fruit and vegetables, and for the preparation of dried fruit, dried vegetables, marmalades, fruit-syrups and fermented beverages, and of all kinds of candies, candied fruits, sweetmeats, rocks, drops, dragees, pralines, etc.

FOOD INSPECTION AND ANALYSIS. **Al-**

bert E. Leach. For the use of public analysts, health officers, sanitary chemists, and food economists. *Fourth Edition,* revised and enlarged by Andrew L. Winton. 278 illustrations. 6 1/2 x 10, cloth. 1109 pp. New York, 1920. \$8.50

PURE FOODS. THEIR ADULTERATION,

NUTRITIVE VALUE, AND COST. **John C. Olsen.** 30 illustrations. 5 x 7 1/2, cloth. 215 pp. New York, 1911. Net, \$1.00

Contents: What is Food?; Pure Food; Standard Rations and the Cost of Food; Milk Bacteria in Milk; Fats and Oils; Butter and its Substitutes; Meats; Carbohydrates; Candies; Food Colors; Preservation of Foods; Fruits, Jams, Jellies; French and Canned Vegetables; Breads, Cereals; Spices, Flavoring Extracts.

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Pure VANILLIN is White!



Production Control

(Continued from page 23)

particularly important point for the cutting up of orders into small runs naturally causes an increase in manufacturing cost.

For instance, it is quite common in many dipping rooms at the present time, for a hand dipper to work on 15 or 20 different kinds of work in a day. It is certainly apparent that an operator cannot attain desirable speed where she has to continually change the kind of dipping or stringing. This is also true of the enrober department. Instead of running one kind of piece every other day for a week, this piece should be run continuously until the desired amount of finished stock has been obtained, and then the machines changed to another piece. These points seem rather obvious perhaps but it is surprising the number of factories operating with a calm disregard of desirable ordering quantities.

Various forms are necessary for the operation of this production control, but they are "home made" as a rule, as local manufacturing conditions and variations in the product prohibit the chance of using a standard form. The main point, however, is the establishment of definite quantities against pre-determined capacity figures.

It is not claimed that the installation of scientific production methods will eliminate all factory problems, for in actual practice it will oftentimes be found necessary to deviate to some extent from the schedule. In view of the fact, however, that the production department has broken the monthly requirements down to a daily basis it will be found that the methods are sufficiently flexible and elastic to take care of practically any contingency which might arise and a sudden influx of orders on any particular piece or package can be easily taken care of by making the necessary changes in these daily requirements and putting forward to another date the requirements on other pieces or packages.

Advantages of the System

Summing up, consider just what would be obtained from this production control:

First: It will assure a minimum finished stock with a consequent minimum investment during the slack season.

Second: It will assure a minimum, yet sufficient raw material stock with a consequent decrease in investment, and, what is even more important, a maximum turnover of the raw materials.

Third: It will insure a well balanced payroll, for it enables the factory superintendent to figure enough in advance, to definitely plan on his help requirements.

Fourth: It immediately discloses the restricting points in the operating end of the business

sufficiently far in advance to eliminate any possible tie-up of goods in process.

As stated previously, these methods for manufacturing control cannot be installed without some clerical effort and expense, but there is, without a doubt, a definite dollars and cents return against this expense. The plan is being used by several manufacturing confectioners at the present time and despite the extra work involved, these manufacturers would, under no circumstances, consider going back to their old, more or less haphazard, hit-or-miss system of planning production.

Next Month: "Treating Overhead Expense."

Coloring Materials Used In Confectionery

(Continued from page 32)

Such products are often put up with a vehicle such as common salt, which is added to assist in the solution of the dye or for other reasons. Since all certified food mixtures are sold under labels that show the actual amount or percentage of contained coloring matter in the mixture the purchaser is able to judge as to its strength or coloring power from this declaration.

Certification

Certified coal tar food color products other than straight dyes are always sold in closed containers which are marked not only with the statement of the amount of actual coloring matter present, but also with the department lot number assigned to the batch after its examination by the Bureau of Chemistry of the U. S. Department of Agriculture. At present the actual proportion of coloring matter in a certified product sold as one of the ten straight dyes is not declared on the container in which the material is packed, but all such products contain at least 82 per cent of pure dye, the remainder being tolerated amounts of moisture, etc.

The procedure of certification of straight dye products to the government consists, in brief, in the submission of a sample from each batch certified, accompanied by two affidavits or certificates, one of which is made out by the manufacturer, the other by a competent chemist who has examined the batch and found it to be free from objectionable material. If the affidavits are found satisfactory a lot number is assigned by the department for use with the color product. In case of repacked or mixed colors, only one affidavit is submitted, this being made out by the person or firm putting up the product and fully describing the way in which it was mixed and repacked.

Production of the green and blue food coloring matters is still abnormally low because of the difficulty experienced by American manufacturers in making these dyes of satisfactory

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purity. The report of the Chemist, U. S. Department of Agriculture, for the fiscal year ending June 30, 1920, shows that during this period 138,395 pounds of straight dyes were certified, the relative amounts of the different coloring matters being as follows:

	Per Cent
Amaranth	43.3
Tartrazine	17.7
Ponceau 3 R	16.6
Orange I	12.7
Yellow A. B.	4.1
Indigo Disulpho Acid.....	2.9
Naphthol Yellow S.....	1.4
Erythrosine	1.3
Yellow O. B.	0.006
Light Green S. F. Yellowish.....	None

As these products were used mainly for coloring confections, ice cream and soft drinks, it may be inferred that the confectionery and associated industries are cheerfully doing their bit to aid in the development of our much desired synthetic color industry.

Corn Syrup

(Continued from page 27)

cream work is smooth in texture and the hard boiled candy is glassy on the interior and has a protective coating of very fine crystals on the outside after it has gone through the process known as sweating.

This same result is obtained in a very much more satisfactory way by the use of corn syrup, which is made as already explained with the fundamental idea of producing a product which never will and never can crystallize while the dextrines in the syrup help to protect the candy from absorbing moisture from the air. If too much syrup is used the candy will be sticky just as it would were too much invert sugar used or too much cream of tartar and the amount is limited to that which can be used without the candy becoming sticky. The proportion must of necessity vary under different conditions of manipulation, weather, character of sugar used, etc.

Sugar undergoes slight inversion upon being raised to the temperatures necessary for cooking different kinds of candy. The extent to which it suffers such inversion determines whether it is a "weak" or "strong" sugar. The presence of corn syrup produces very slight but measurable inversion and the extent of this inversion determines whether the corn syrup is "weak" or "strong." The ideal condition is where a strong sugar and a strong syrup are used, in which case a materially larger per cent of corn syrup can be used than would be the case with a weak sugar and a weak syrup.

There may be a difference in the way different makes of corn syrup act in the candy factory even though they are made along the same

general line. This is due to slight differences in the factory operations and methods and thoroughness of refining. Commercial sugar varies in its character to a much greater extent than does corn syrup.

Color of Corn Syrup

Corn syrup during the process of manufacture is subject to the decolorizing action of bone black, and as it leaves the factory the syrup is usually water-white. The length of time it will remain white is subject to a number of factors, among the chief of which is temperature. A syrup which has been kept for some time will slowly go off in color, especially if the weather is warm or the syrup is stored in a warm place or has been kept hot while pumped through circulating pipes in the candy factory. The color of the syrup is not necessarily indicative of its working value; this is true not only for hard boiled goods but for cream work as well. There is only one satisfactory test that the writer is aware of for proving the actual working value of a given corn syrup and that is to put it into actual use or at least to make a small candy test upon the syrup in question. In this way it can be easily proven which of two lots of syrup gives the best satisfaction both as to the working properties and as to the color of the cream work and hard boiled goods.

This is true not only of corn syrup but of the sugar used with the syrup. In making comparisons of two lots of corn syrups it would, of course, be necessary to use the same lot of sugar in each case, while in making comparisons of two shipments of sugar it would be necessary to use the same corn syrup.

(TO BE CONTINUED)

It is written "In the sweat of thy brow," but it was never written "in the breaking of thy heart." God means every man in this world to work, but He means no less than every man shall be *happy* in his work.

"A little more patience, a little more charity for all, a little more devotion, a little more love with less bowing down to the past and a silent ignoring of pretended authority; a brave looking forward to the future, with more faith in our fellows and the race will be ripe for a great burst of light and life." *Elbert Hubbard.*

This choice bit of practical gospel was first observed by the editor on a large display surface facing the railroad station at Springfield, Mass.—a very good index to the atmosphere of the *city of quality.*



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Profitable Production

(Continued from page 30)

profitable distribution—as he is a ravenous buyer of things that his customers insist upon having, so that everybody from the boss down to the kid who eats it are perfectly satisfied and the secret of “profitable production” is exemplified.

“Beware the Qualifier”

One of the most disastrous practices in the manufacturing department is the delusion of increased profits through cheapening and changing the ingredients of a good seller, or reducing the size, if it should be count goods. The original samples are in the hands of the salesmen and repeating orders are filled with the substitute. The natural result quickly follows—complaints are made and sales shrink until the sale of that piece disappears. A good seller has been killed and the reputation of the house sadly impaired. The impression has been created that the house are “skimmers,” and if persisted in, their road becomes decidedly rocky.

Candy people are wonderful pirates—they copy a piece of goods put on the market by a competitor, stealing his idea and trying to get away with it. This condition probably exists in other industries, but it should not be condoned or encouraged, and if it could be absolutely wiped out it would put us all on a higher and a better plane.

“Accidents and Best Sellers”

About twelve or fifteen years ago a salesman called on me representing an eastern house, and while I always made it a point to be courteous and considerate to all salesmen, especially those who called regularly, I was at my wits' end to give this man an order—as his line was not strong or attractive. Personally I was willing, but from a business standpoint I wished they would take him off the road. I was about ready to throw up my hands when he offered me a dark brown cube about $\frac{7}{8}$ of an inch in size and asked me to taste it. Appearance was against it, but I ate the whole piece, and applying my rule of experience, I concluded I could use 25 squat pails. The next day after they arrived I wired for 25 more, and when the invoice arrived I sent a mail order for 50 more. This started in September and by Christmas I had bought 1,000 pails. As a matter of history, we sold 1,000 pails a year for several years thereafter. The price gradually advanced from $8\frac{1}{2}$ cents to 12 cents, and the capacity of that

(Continued on page 54)

Originality

(Continued from page 34)

Perhaps it is human nature to do as the other fellow does and desire what he has, especially should he be a marked success, but the originator generally gets the cream of the trade and profit by the time we wake up to his success.

In most cases this condition is due to the fact that the salesforce will find something out in their territory that is giving their merchandise a battle, and to combat the item or items, as the case may be, they bring in a sample with the request that it be produced and it generally is produced and at a loss or at best an even break.

There are factories that haven't, for a number of years, produced a piece that was entirely original with them. And new factories have come into the field founded on a direct copy of some existing line of merchandise. A few large factories are really original and that is one reason they are large and successful.

It is my opinion the manufacturer who specializes on *quality and originality* has the edge on the rest all the time, even though he may have but very few numbers; in fact, the fewer the better if they be good ones.

It's a certainty that no one factory can make all the candy or all varieties of candy efficiently; so if some firm is equipped, manned and managed to produce their own particular specialties, why try to beat them at their own game?

A certain retailer has for a slogan: "I can't make all the candy, so I make the best of it."

This slogan can apply to all of us, for it's a sure thing that the candy they are able to produce profitably and efficiently is the best for them. And if conditions warrant or demand something new, for the love of mud, let it be new or at least different from the other fellow's.

And if the executive can't dope out a winner, why not give a prize to the helpers or some of the other employees, even to the janitor, for a suggestion that may be developed into something worth while?

There is hardly any plant but what with their present equipment and facilities can turn out a successful confection which is different and which, because of their specialized equipment and organization, may hold "the balance of power" and prove unprofitable for the other fellow to appropriate the new piece. I believe that every success, in the true sense of the word, is based on *originality*.

A CANDYMAKER (JONES).

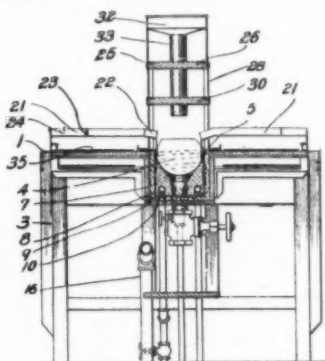
New Inventions

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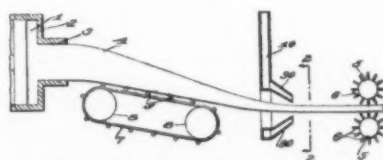
Courtesy, Mason, Fenwick and Lawrence

1,397,757. CONFECTION APPARATUS. Thomas Alva Ebaugh, Kansas City, Mo. Filed Nov. 25, 1919. Serial No. 340,584. 19 Claims. (Cl. 91—2.)

1. In a confection machine, a frame, a chocolate trough-shaped container longitudinally supported by the frame and extending from end to end of the frame, dip trays carried by the frame and along the edge of the container, and a conveyor running past the dip trays.

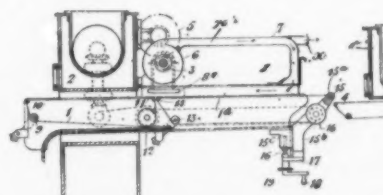


1,393,144. MACHINE AND METHOD FOR MAKING CANDY. William B. Laskey, Marblehead, Mass. Filed Oct. 19, 1920. Serial No. 417,986. 6 Claims. (Cl. 107—54.)



1. The method of forming candy which consists in pulling down warm pulled candy and stopping the reduction in size by chilling it.

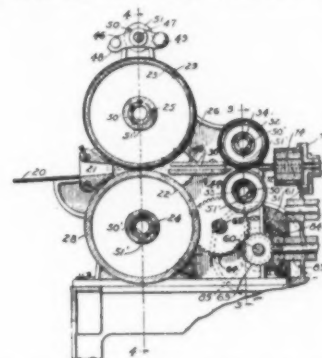
1,393,460. MACHINE FOR COATING BONBONS. Asbjorn Sonsthagen, Leytonstone, England. Filed Mar. 25, 1920. Serial No. 368,603. 8 Claims. (Cl. 91—3.)



1. In combination, receiving and intermediate moving surfaces arranged to provide receiving faces; a discharge surface at the discharge

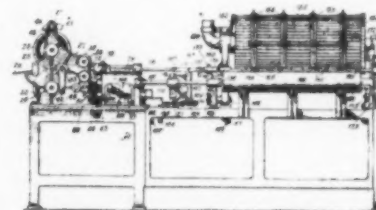
end of the intermediate moving surface and arranged to provide a carrying face off-set below said receiving faces; and means disposed above said receiving and discharge faces for coating bodies carried on said moving surfaces.

1,400,128. MACHINE FOR MAKING CANDY. Fred E. Zaiss, Chicago, Ill. Filed Dec. 8, 1919. Serial No. 343,253. 14 Claims. (Cl. 107—10.)



1. In a machine of the character described, the combination of a pair of rolls for shaping and feeding a strip of candy and provided with means to shape different strips, mechanism for driving said rolls, means for heating said rolls, mechanism for acting upon the shaped strip after it leaves the rolls and means for conjointly adjusting the rolls to bring different portions thereof into position for co-operation with mechanism for acting upon the shaped strip.

1,400,127. MACHINE FOR MAKING SPIRAL STICK-CANDY. Fred E. Zaiss, Chicago, Ill. Filed Sept. 11, 1918. Serial No. 253,563. Renewed June 13, 1921. Serial No. 477,345. 27 Claims. (Cl. 107—4.)



1. In a machine of the character described, the combination of mechanism for shaping and continuously feeding a strip of material, means for twisting the strip, means for severing the twisted strip into lengths and means for severing the lengths into sticks of commercial size.

THE OPEN FORUM

A Review and a Forecast

Seated amid the apparent ruins of chaotic candydom, I have tried in vain to reach the Delphic Oracles by Ouiji, prayers and incantations—but not a tip do I get. It would seem that the Oracles, like bankers, are chary about doing business with candy-people. Even my reliable spiritualistic control, Little Pigs Eye, bursts into wails and jabbering when I mention candy. In a moment of partial coherence he did declare that Heaven took no cognizance of candy—and referred me to another address.

With others, I doubtless have innumerable relatives and friends in the sector mentioned, yet, I get nothing on the wire but crackles and loud cackling. Thus rejected by Heaven and spurned by Hell, I seek augury in the entrails of the prune-jar—trusting to beget a trance divine through which to forecast the future fortunes of candy.

The candy business is like strong drink—it will get you if you ignore the Eleventh Commandment and take it too seriously. I have the honor of knowing several monomaniacs afflicted with the dread “candyitis,” and, as a prophet of the sticky future, I confess that it requires utter irresponsibility or a gift from the gods to prognosticate anything so uncertain as the candy events of 1922.

With the possible exception of the Stock Market, there is no business in the world so given to fluctuation as the candy industry. Its regime is like unto that of latter-day Rome—an emperor one day—and a corpse the next!

As I look back over the trail of 1921, I behold it strewn with crowns and scepters, haughty heads and lifeless forms of august companies—the chaos and carnage of a reign of terror. Candy manufacturers have had a hard, as well as an enlightening, time during the past year. After the end of the world struggle there came difficulties of every kind—financial, commercial, political.

The backwash of war all but drowned the great industry—and even as brave attempts were being made toward resuscitation, the censorious biddies—freed from their martial knitting and Y. M. C. A. atrocities—leaped forward with lust and frantic clamoring.

The candy monarchs, threshing to the right and left, their white aprons smeared with chocolate and limmed with slab oil, made a valiant defense

of their realm, but only succeeded in knocking themselves down. Many a noble who had been living the life of a Louis, found his treasury depleted and his pawn-broker hard. Champions of super-candy took the count—and their creditors took the factories. The decrease in production last year was decided.

The recent “aloofness” of the average candy buyer means that the public has become discriminating and cannot be fooled by a fanfaronade of publicity. Some, of the know-it-all type, say that the public wants value for its money. Granted! Yet, others state that so long as cheap goods are well advertised they can be sold. They contend that the public likes to be fooled. All of which makes us wonder how much longer certain people will keep faith with the Puritanic delusion. In the words of Raymond Hitchcock, “Oh, if Plymouth Rock had only landed on the Puritans, instead of the Puritans landing on Plymouth Rock!”

The producers stand puzzled at the cross-roads—a characteristic of theirs—pondering on alternatives. They may relapse to their original business of furnishing cheap candy at enormous prices, as during the war times, or they may bid for a discriminating patronage with frill-less packages at “thrift” prices.

Leaning on my oracular tripod, with a moist finger to the zephyrs, I detect haleyon after holocaust! As my favorite philosopher sings of the “Silver Lining,” so sing I. Of course, the dead will not awaken. Heaven forbid!

I wax optimistic! Yet, I take issue with my confrere, Sampler Whitman, who asserts by the “evil eye” with which he gives the world at large a bloody stare, that the glucose era ends with the Yuletide. This old chunk of star dust has been boiling in the crucible for a year and a day—and, through Fate’s kind decree, we are getting back to normal.

After all, we are human. Each year multitudes of us will devour great seeds of candy. And, with alacrity, candy manufacturers will swarm to meet the clamoring demands of the public—even as ants frantically struggle to store food in anticipation of the long, cold winter.

The days of strife are over. The chains that have bound the earth to economy and thrift are broken. We are going to eat, drink and be merry.

And so, I sing of haleyon days for the Candy Industry!

SHIRLEY RUFFNER,
Pres. Sophie Mae Candy Corp.,
Atlanta, Ga.

In the Wake of the Superintendent

Some minds are full of old scratchy records that have been played too often without changing the needle.

Stockman: We are all out of 1-lb. boxes.

Supt.: Well you kept it a secret quite a while, we may be able to get some after the rush is over.

Give your subordinates a chance. You wouldn’t expect a plant to grow if you kept your foot on it.

Time Keeper: Most of our dippers are late every morning.

Supt.: That’s grand, they can make up their time after the holidays so we can fill our Christmas orders in January. I’m sure our trade will be pleased.

It takes mighty little advertising to build up a reputation for unreliability.

Supt.: Get some more dippers for the holidays, we will pay them what they are worth.

Forelady: Can’t get them for that, they would starve on those wages.

Keep your door open for Opportunity—why wait for its knock?

Manager: What is all that noise outside, Jerry.

Jerry: Some of our dippers are trying to find space to park their cars.

The man that forges to the front is the one who thinks in advance of the other fellow—that does something he does not, or does what he does better.

When the future looks dark, light up your face.

One who has to die in order to be appreciated is not a good advertiser.

N. B. J.



A New Manufacturer

J. E. Condray, formerly Secretary and Treasurer Paris Candy Co., Paris, Texas, has resigned to establish a wholesale manufacturing and jobbing business, in the same city, under his own name.

New Equipment

The Croll Manufacturing Co. of Bridgeport, Conn., have a number of new items ready for delivery, among which are a continuous hard candy cutting machine and a flat base candy cutter. Announcement is made also of a high pressure steam boiler to handle from one to three jacketed kettles, designed especially for the retail manufacturer.

New Chocolate Factory

ELINE'S, INC., Milwaukee, have just completed a chocolate and cocoa plant a few miles north of the city in a beautiful country district along the Milwaukee River where they have about ninety acres of ground.

The unit just completed is a five-story structure of concrete and brick and contains about fifteen acres of floor space. They will specialize in milk chocolate and will be ready to make deliveries in the near future. P. N. Kassan is Sales Manager.

Changes Corporate Name to The Cracker Jack Company

At the beginning of its Golden Anniversary Year, Rueckheim Bros. and Eckstein, Inc., of Chicago and Brooklyn, one of the largest manufacturers of confections in the country, announces the change of its name to The Cracker Jack Company.

Since the organization of the firm in 1872, it has manufactured confections of all kinds. One of them, however, has achieved an individuality and popularity above all the others—Cracker Jack—even to the point where the trade has come to call the organization "The Cracker Jack Company."

Appreciating that the choice is a good one, easily remembered, the directors of the company decided to adopt it officially. The change in name will in no way effect the organization or its policies.

Palm Sugar

"Sugar From Palms" is the name of an interesting article which appeared in a recent issue of World's Markets. A brief summary of the article as it applies to the confectionery is given herewith.

The commercial possibilities of the sugar bearing palm in the Philippine Islands have only recently been recognized. This is a new and independent source of supply for confectionery manufacturers.

There are three distinct species of palms which yield sugar: nipa, buri and sugar. Nipa, the most important, grows in brackish swamps with no cultivation. Its sap has been used extensively to make "tuba," a native drink. The normal flow is about three months of the year—7½ to 12½ gallons per tree being collected. Composition of the sap varies according to age of stalk, season, location and length of time sap has been flowing. It is claimed that the juice properly preserved in lime and sulphite will offer no difficulty in a sugar mill. The treatment of the sap differs in no respect from the manufacture of cane or beet sugar.

The manufacturing cost of white sugar from nipa juice is far less than either that of cane or beet, there being no expense of grinding or extraction. It is estimated that approximately 250 pounds of granulated sugar, polarizing at from 99 degrees to 99.5, can be manufactured from 250 gallons of the average sap.

The buri palm sugar is used mostly as a confection. The fresh sap is very sweet. It is boiled in a kettle, stirred until it granulates, and poured into moulds. Excellent quality is produced when polarized 94 degrees to 98. The sugar palm produces a brown sugar and is used only to a limited degree. The sap is collected by beating the stock of the plant to stimulate the flow from the injured parts and boiled until a drop of the liquid will solidify on a cold surface.

Experiments show that both buri palm and sugar palm produce the best results when mixed with sugar cane juice, however, it has been demonstrated that nipa juice will produce white sugar at a manufacturing cost far less than either cane or beet sugar.

W. C. S. A. Joins "The Big Three" in Special Session Week of May 22, 1922

The Western Confectionery Salesmen's Association has held some very successful conventions since their organization seven years ago, but the one held in Milwaukee, at Hotel Pfister, on December 6th, 7th, and 8th, was without doubt the best one they have had so far—from standpoint of business transacted, entertainment features and attendance.

The Convention Committee, headed by Mr. Irving R. Gillette of Milwaukee, made a record that future committees will find hard to even equal. On Tuesday night they entertained the members with a smoker, which was a great success. Ask any of them! On Wednesday night they staged a splendid banquet and dance, with over two hundred covers, and every table filled. There was dancing during the banquet, and after the tables had been cleared away. These two affairs were held in the Hotel Pfister and the management left nothing undone that would contribute to the hospitality and enjoyment of all present. The last evening, Thursday, was devoted to a theater party. All of the entertainments were without expense to members and their guests.

Much constructive work was done by the members in convention, and a program for the year has been mapped out that will go far toward making the organization a strong factor in the industry.

One of the most popular members of the Association, Mr. William Prentiss, Jr., of Chicago, was elected president for the ensuing year. Mr. I. R. Gillette, of Milwaukee, was elected to fill the office of vice-president and the Association is to be congratulated in having these two strong and hard-working executives. Mr. George E. Burleson, of Chicago, was re-elected secretary-treasurer.

The convention adjourned to meet in Chicago the week of May 22, 1922, during which the largest gathering of confectioners ever held in this country will come together. The National Confectioners' Association, The National Jobbing Confectioners' Association, and the Associated Retail Confectioners' of the U. S., The Western Confectionery Salesmen's

WARFIELD CHOCOLATE CO.

536-552 West 22nd Street

CHICAGO



Specializing in

Quality Coatings

FOR ALL PURPOSES

May we submit samples
for your consideration

AFFILIATED WITH
THOMSON & TAYLOR CO.

Association, and it is hoped that the *National Confectionery Salesmen's Association* will also call a special meeting in Chicago at that time.

The next regular convention of the W. C. S. A. will be held in Chicago on December 5th, 6th, and 7th, 1922.

Profitable Production

(Continued from page 50)

plant was taxed to the limit, and this is how it all came about:

The boss discovered half a car of bag figs that would be out of condition if not promptly disposed of, so he called his superintendent's attention to it and asked him to create a new piece of goods that would use up those figs. Through his ingenuity and experience he produced a combination of fig and cocoanut that proved to be the best seller that house every produced. The underlying motive was accidental, and the genius of that superintendent did the rest.

Another incident that occurred last October in Chicago: I was shown a sample card out of a salesman's case, showing all the colors, shapes and sizes of a drop machine mixture—bright and shining—looked as though it had just been made. I was informed that it was a line this house had been selling for years—ninety per cent sugar, selling in pails to the trade at 20 cents, and the sample I was looking at was a year old. Their trade on this particular mixture was established, which was indicated when they told me their fall orders booked exceeded 25 tons. To get his line of thought I asked the boss how he could sell this line in competition with other mixtures as low as 10 cents, and his answer was prompt—*Quality and Workmanship.*

As this number of *THE CANDY MANUFACTURER* is dedicated to the Superintendents, I would suggest the slogan "Quality and Workmanship" for their department, in the great machine of which they are a part. God made all things which were made, and He pronounced them good. We can't create, but in handling those things of creation which come to us in our work we can originate combinations and processes that will bring both success and profit. I commend this thought to our Superintendents.



WIRE TRAVER

FOR
DIPPING PAPER, Plain or Embossed

WAX PAPERS, Plain or Printed

WATTOLINE, Plain or Embossed,
BAR WRAPPERS,

Foil, Glassine or Wax

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BOX LINERS and DIVIDERS

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BON BON CUPS!!

GLASSINE BAGS!!

MATS

GELATINE

If you want confectionery papers—Traver has it. Having devoted twenty-five years to your service, we know your individual wants and are prepared to take care of them. Large stocks are being carried at this time to take care of your wants immediately.

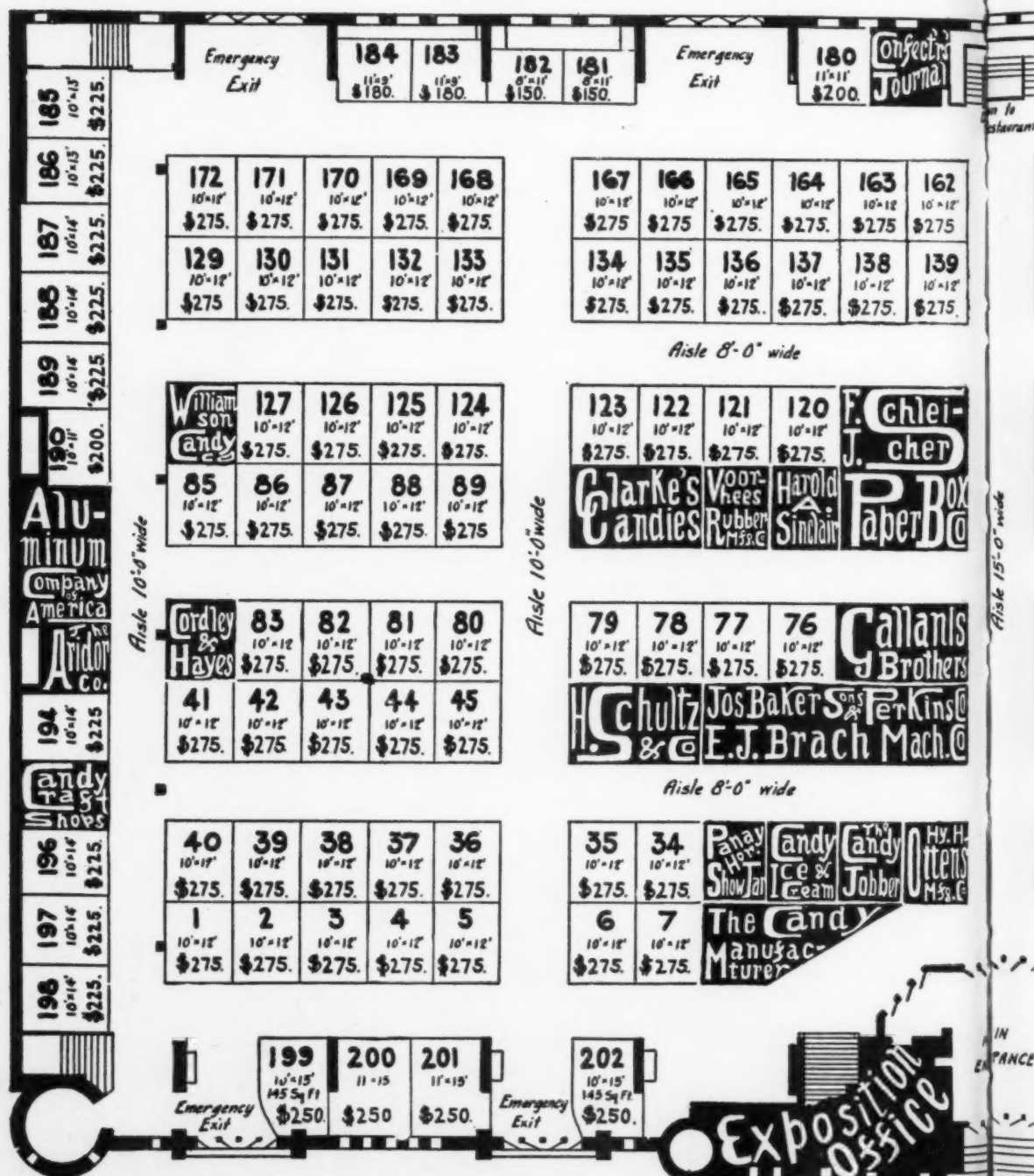
The F. C. Traver Paper Co.

358 368 W. ONTARIO
CHICAGO, ILL.

**Let Us Figure On
Your Requirements
for the Coming
Year.**



This Plat Shows Exhibit Spaces
The National Confectionery and
Coliseum, Chicago,
Choice of Location is Narrowing Down Fast.
EXPOSITIONS COMPANY OF AM



Since the above floor plan was made, and up to December 22nd the following additional spaces (in place of No. 33); The Smith Scale Co., No. 141; S. E. Schonwasser Co., Nos. 144-145;

Taken as of Dec. 1st, 1921, for
Associated Industries Exposition
 May 22-27, 1922

Write or Wire at Once for Space to

AMERICA 1362 CONGRESS HOTEL, CHICAGO
 Telephone Harrison 205

Downey Soda Fountain **Emergency Exit** **176** 150-76-34-71 **175** 17-11' \$200. **174** 11-11' \$200. **Emergency Exit** **173** 7-11' \$150.

Aisle 8'-0" wide

162 10'-12" \$275	H.O. Win 10'-12" \$275	160 10'-12" \$275	159 10'-12" \$275	158 10'-12" \$275	157 10'-12" \$275	156 10'-12" \$275	155 10'-12" \$275	154 10'-12" \$275	153 10'-12" \$275	152 10'-12" \$275	151 10'-12" \$275	Essex Clatine Co.
139 10'-12" \$275	Wm. J. Stange 10'-12" \$275	141 10'-12" \$275	St. Mess	144 10'-12" \$275	145 10'-12" \$275		146 10'-12" \$275	147 10'-12" \$275	148 10'-12" \$275	149 10'-12" \$275	Amer. Oven & Mch Co.	

Tin Deco- rating Co. of Balto **115** 10'-12" \$275. **114** 10'-12" \$275. **113** 10'-12" \$275. **112** 10'-12" \$275. **Nat'l Licor** **Atlantic** **Cister** **Ideal** **Um** **Cocoa**

Aisle 9'-6" wide

National Association	Kohnstamm & Co	White-Stokes	111 10'-12" \$275.	110 10'-12" \$275.	Bucyrus Copper Kettle	108 10'-12" \$275.	107 10'-12" \$275.	Stadler Photo
Runkel Brothers Inc.	Kay White Seal Prod Co	Nat'l Seal	Vacuum Candy Mach'y	Un. Chem Org Prod	Beat Stewart	Kearns Sorsuch Bottle Co	Conley	

Aisle 10'-0" wide

Nat'l Aniline & Chem. Co.	65 10'-12" \$275.	64 10'-12" \$275.	Kortune Products
Bendix Paper Co.	60 10'-12" \$275.	61 10'-12" \$275.	Planke Baer Ex & Tr Co

Aisle 9'-0" wide

23 10'-12" \$275.	22 10'-12" \$275.	21 10'-12" \$275.	20 10'-12" \$275.	19 10'-12" \$275.
14 10'-12" \$275.	15 10'-12" \$275.	16 10'-12" \$275.	17 10'-12" \$275.	18 10'-12" \$275.

Aisle 8'-0" wide

Impr'd Appliance Co **25** 10'-12" \$275. **24** 10'-12" \$275. **11** 10'-12" \$275. **12** 10'-12" \$275. **13** 10'-12" \$275.

IN FRANCE **Cocoa & Chocolate Association** **Emergency Exit** **Para Mount Mach'y Co.** **Milwaukee Paper Box Co.** **Emergency Exit** **Conf. Merca Intline Agency** **207** 11'-14" \$250. **Int'l Nat'l Constr**

have been taken: Haug & Company, No. 190; Panay Horizontal Show Jar Co., Nos. 139-162
 Wm. J. Stange Co., No. 76; Merrell-Soule Sales Corp., No. 120.

54 Years

is a record that we are proud to boast of in supplying Gelatine to the trade throughout the United States.

Time has proven the purity, quality and uniformity of our product.

*We can serve you no matter
what your requirements may be*

MILLIGAN & HIGGINS GELATINE COMPANY

222-224 Front Street New York

WE CAN LOOK AFTER YOUR REQUIREMENTS
FOR

CANDY BOX WRAPS

A Beautiful Assortment of Subjects Carried in Stock

Excellent Facilities for Reproducing Package Dressings
which you are using regularly

ALSO FOR

Creating Exclusive Designs for New Propositions
Which Demand a Superior Quality of Workmanship

YOUR INQUIRIES SOLICITED

The Henderson Lithographing Co.

"All that is Good in Lithography"
CINCINNATI, OHIO

The flavoring strength of about **2,000 fresh ripe lemons** is carried in one gallon of

C X C LEMON

The delicate aroma of **4 4-5 pounds of best vanilla beans** is held in one gallon of

VANILLA ISOLATE

These flavors are concentrates.

*Examine samples and
judge for yourself.*

FOOTE & JENKS

Expert Flavor Specialists

JACKSON, MICH.

*Most reliable gelatine
for Confectioners—*

WHITTEN'S GELATINES

are standard

— Established 1879 —

Strength, purity and uniformity guaranteed

Manufactured by

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Winchester, Mass.

Woolworth Building
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SAXMAYER



A Machine Installed Is Money Saved—

To Say Nothing of the Convenience

Candy Manufacturers who are using the Saxmayer Bundle Tyers say they could not get along without them.

Here Is Our Free Trial Offer

We will ship this machine to you on 10 days' trial and if you don't find it one of the most profitable investments you ever made—return the machine.

Simple to operate—Just attach to an ordinary light switch. Requires no experience to get excellent results.

Write for complete information.

National Bundle Tyer Co.

Blissfield, Mich.

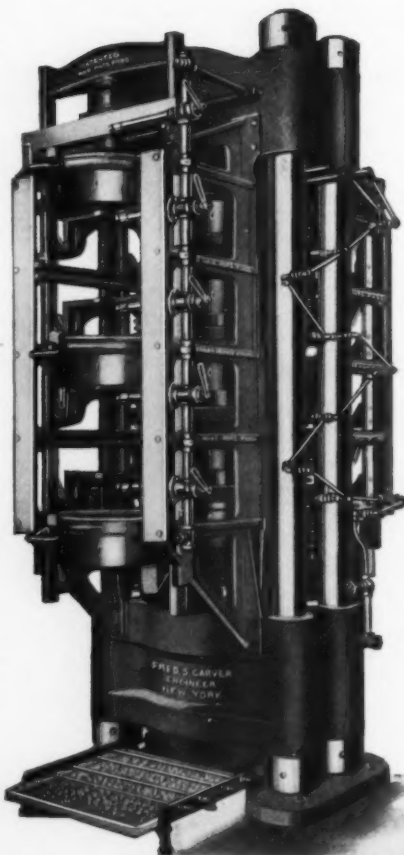
CARVER ACCUMULATOR SYSTEM

FOR
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COCOA PRESSES

A MODERN SYSTEM
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CREASES THE OUTPUT
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EQUIPMENT ORIGINATED
AND FURNISHED EX-
CLUSIVELY BY US FOR
OVER FIVE YEARS

WRITE FOR BULLETIN AC 1



CARVER COCOA PRESSES

PATENTED AND PATENTS PENDING
IN U. S. AND FOREIGN COUNTRIES

NEW FEATURES
ELIMINATE ALL HARD
LABOR, AND GIVE
GREAT PRODUCTION

WRITE FOR
BULLETIN PR 1

FRED S. CARVER
ENGINEER

8 West 40th Street NEW YORK

Simplex Vacuum Cooker Facts

THE Simplex Vacuum Cooker will make a better hard candy at a lower cost than possible by any other known method.

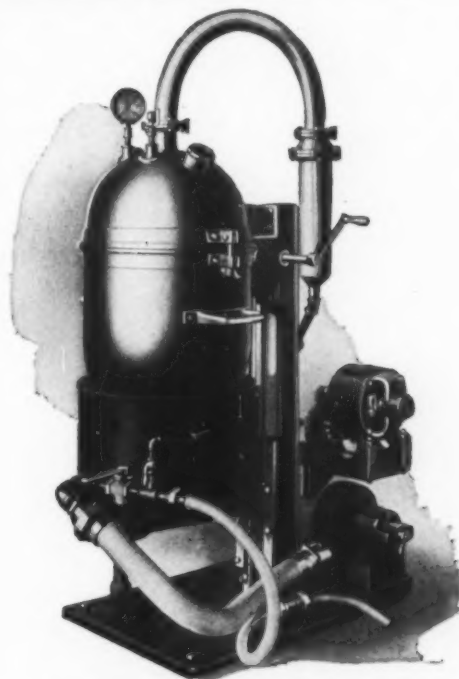
The flexibility of the Simplex Vacuum Cooker, recommends itself to the manufacturer who wishes to cook a variety of batches, both as to size and combination of raw material.

Using the Simplex Vacuum Process you will obtain a **clearer and dryer candy** due to the moisture and air having been extracted by Vacuum, consequently when pulled and spun results in a **whiter** product and **more lustrous satin finish**.

Candy made the Simplex Way will not sweat from the inside, therefore, it will not stick; **it will keep longer**.

A great percentage of scrap can be used in the Simplex. **A larger percentage of glucose or corn syrup can be used** than in other methods, producing a better candy.

Candy made the Simplex Way will be sweeter because it is not cooked to a high degree over fire or steam, which dissipates the sweetness.

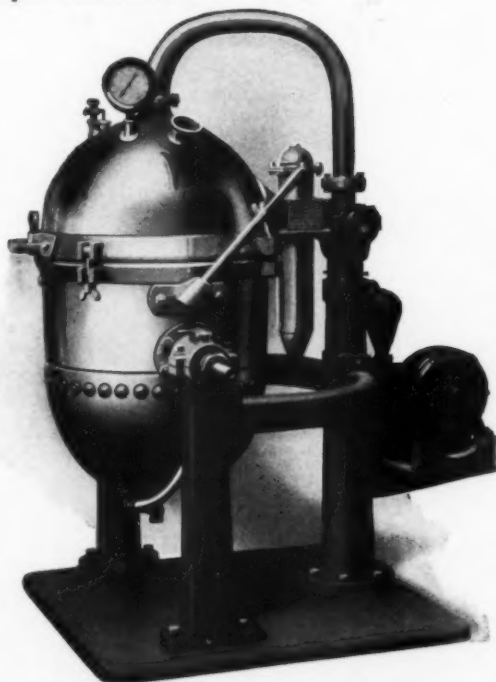


Simplex Gas Vacuum Cooker

(Process Pat. June 30, 1914)

Patents April 20, 1915, November 30, 1915

Space	Height	Power	Capacity: 25 to	Weight
2x4 ft.	6 ft.	1/2 H.P.	100-lb. Batches	1200 lbs.



Simplex Steam Vacuum Cooker

(Process Pat. June 30, 1914)

Patents April 20, 1915, November 30, 1915

Space	Height	Power	Capacity: 50 to	Weight
4x6 ft.	6 ft.	1/2 H.P.	200-lb. Batches	2500 lbs.

THE Simplex cooks straight sugar perfectly.
A batch cooked in a Simplex Vacuum Cooker is ready to work immediately after it is poured on the slab.

The machine is simple in design and made of the highest grade material. **It does not require mechanical knowledge nor skill** to operate it successfully.

The Simplex Vacuum Cooker has proved the test in years of successful usage among some of the highest grade manufacturers in the United States as well as foreign countries.

OVER 400 IN USE

Vacuum Candy Machinery Co.
326 W. Madison St., CHICAGO, ILL.

VON DANNENBERG & PICK

82-92 Beaver St.—NEW YORK CITY—129 Pearl St.

BROKERS IN

**All Grades of Cocoa Beans, Cocoa Butter
and Cocoa Products**

Good Morning—

Here's the one you've been wanting for a long time.

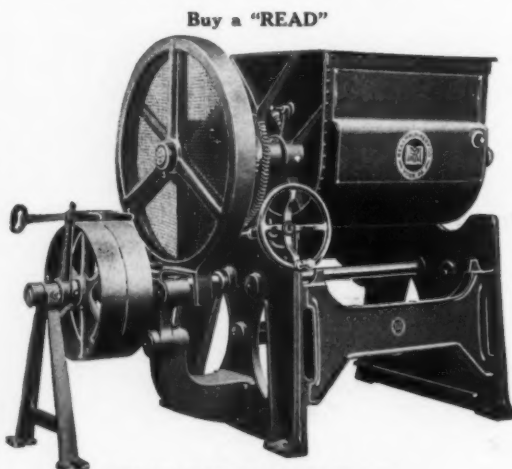
The READ Double-Arm Mixer

A machine that will mix a large batch as well as a small one.

A machine that has an established record.

A machine that has won the greatest preference in the world by its past performance.

Today there are over 10,000 READ users in this country and everyone has the same story that once one of our machines is put into use they would not and could not be without it.



READ DOUBLE-ARM MIXER

A few of the prominent users whom we invite you to get in touch with:

Huylers.....	New York City	Lofts, Inc.....	New York City	Tiffin Product Co...	New York City
Ludens.....	Reading, Pa.	York Chocolate Co.....	York, Pa.	Auerbachs.....	New York City

Don't fail to see this space in the next issue

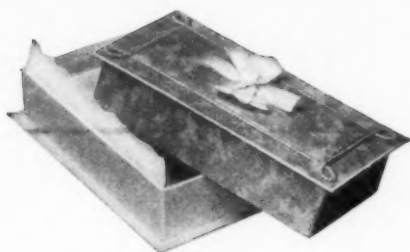
READ MACHINERY COMPANY - - - York, Pa.

Highest Grade Shelled Nuts

1885—IMPORTERS—1921

SPENCER IMPORTING CO.

163 Greenwich Street, New York City



Is the Box as good as the Candy?

After you have made your candy as good as you can—don't handicap its sale with an unworthy box. Many an otherwise shrewd and thorough-going candy manufacturer is doing just this!

Are you sure your boxes are all they should be—could be?

Ask the SCHULTZ organization to suggest an improvement on them. The result—submitted to you without cost or obligation—may prove a revelation to you.

H. SCHULTZ

Boxes are Trade Magnets

For 65 years it has been our pleasure and our task to supply the demands of a very large number of the country's most exacting and successful candy makers for modernized boxes. We know our business; and we can make that knowledge of prime benefit and value to you. A Schultz designed box will directly increase your sales. Let us prove it. Ask how!



H. SCHULTZ & CO.
CHICAGO'S OLDEST AND
LARGEST MANUFACTURERS
OF PAPER BOXES—

519 to 531
SUPERIOR ST.
CHICAGO

Ten Good Reasons Why the Superintendent and Executive

Should be paid subscribers of

The Candy Manufacturer

("Read wherever good candy is made")

Price, \$1.00 per Reason.

1. Because this magazine is devoted to the technical and commercial interests of manufacturing confectioners exclusively and its service to the industry will be in direct proportion to the support and co-operation received from the individual.
2. Because Dr. A. P. Bryant, one of the foremost food chemists in America, is in charge of our Laboratory Department.
3. Because Dr. Frederic W. Murphy, one of the foremost sugar chemists in this country, is writing an extended series of articles on "Sugar and what can be done with its physical properties to obtain any desired result in confectionery."
4. Because to a paid subscriber is extended the privilege of consultation through the magazine with our staff contributors, a service which may reasonably be worth a hundred times the subscription cost in some instances.
5. Because Clyde E. Murray is writing an extended series of articles on Industrial Management after having been associated with some of the largest manufacturers of package candies in the U. S.
6. Because each issue contains an article on some confectioner's raw materials.
7. Because the "Open Forum" and "Superintendents Roundtable" offer an exchange of ideas and opinions from department heads of the wholesale candy factories of the country.
8. Because in each issue there is a boiled down review of the sugar situation which is comprehensive and dependable.
9. Because the department "What's New" reports the new machinery, new inventions, and happenings of news value.
10. Because our editorial program for the year includes other valuable features which will make *THE CANDY MANUFACTURER* one of the finest specialized business magazines in America.

Stock Exchange Bldg.
Chicago

EARL R. ALLURED, Publisher

(\$10.00 for 5-year subscription—\$3.00 for one year)

Let's Take Stock

A Confidential Conference with the Publisher

Assets



YEAR ago THE CANDY MANUFACTURER was merely a good idea, today it is an institution of service—an accomplishment of the aim and ideal which brought this magazine into being: the fulfillment of the long felt want and crying need for a specialized publication devoted exclusively to the manufacturing interests of the confectionery industry.

Today THE CANDY MANUFACTURER represents a selected, hand-picked audience of manufacturing confectioners over an international area—an audience of business and professional men whose every day problems and vital interests are in common. Our subscribers represent not only the executives but the candy superintendents, purchasing agents, chemists, foremen and all practical men in the factory. This publication enjoys the recognition and whole-hearted co-operation of the best element in our industry—three of the officials of the National Confectioner's Association are on our editorial staff and a representative number of local and territorial associations in our industry as well as individual manufacturers and superintendents have pledged their co-operation either in an active or advisory capacity. If congratulations, well wishes and pledges of support from these key individuals in our industry were dollars, THE CANDY MANUFACTURER would finance the much needed national advertising campaign and immediately put the candy school (a technical candy institute) in operation.

Liabilities

This brings us to the subject of liabilities. We are frank to admit that there is still a little red ink on our balance sheets but we are proud of it, that's part of the program. We might have declared a dividend this month if we had gauged the circulation, service and editorial value of the magazine by the subscription and advertising revenue received. Conversely, articles written by the foremost technical authorities on materials and management have been secured exclusively for THE CANDY MANUFACTURER regardless of cost. No reasonable expense has been spared for artistic engravings and plenty of them, good quality paper stock, expert printing and the details of the typographical production of the magazine. Furthermore, sufficient number of copies of each issue have been printed to reach every known

manufacturer of candy and chocolate in America and the leading foreign countries and our circulation department and subscription promotion campaign is utilizing every source of information and avenue of distribution which will place THE CANDY MANUFACTURER "wherever candy is made." Such a program costs real money but it constitutes a genuine service which is no more than our advertisers and subscribers have a right to expect. Our readers thus have the benefit of a "closed session" of the entire manufacturing fraternity of the industry. Ordinarily this matter about "red ink" would be very confidential inside information for stockholders only, but inasmuch as this point has given some of our perfectly good potential advertisers and close observers some semi-serious concern, this open statement is in order, perhaps.

Income and Profits

Profits! That's almost an obsolete word to many in our industry of late, but it's coming back as a welcome guest in 1922 just as sure as shootin'. Now here's how we take care of that little red ink:

In the first place on the basis of \$3.00 a year, the subscribers pay their proportionate share of the production cost of the magazine; thus the advertisers do not shoulder an unreasonable burden.

THE CANDY MANUFACTURER offers the manufacturer of confectioner's supplies and equipment (our only source of advertising revenue) an opportunity to present his sales message directly to practically all the potential buyers of his products *with one medium* at a cost which is less than he can send a circular to the same list. This concentrated, well aimed, wasteless circulation directed exclusively to the logical outlet—the manufacturing confectioner—represents an unprecedented advertising value, an efficiency which only a highly specialized magazine of a technical nature could deliver, and therefore, such a proposition has never been available heretofore. Further, it is quite logical that THE CANDY MANUFACTURER is the only kind of a magazine which is read by the department heads, the individuals in the candy factory who buy and use the supplies and equipment.

Many of the purchasing agents and superintendents have ordered the magazine sent to their home address. This is a contact which any aggressive supply and equipment manufacturer can well afford to pay a premium for

if necessary. It is a cold-blooded business proposition which is so fundamentally right and economically sound and logical that even the most confirmed advertising and trade paper skeptic would break loose and catch the vision of easier orders and more of them by talking directly to the individuals in the candy factory (perhaps during their leisure hours at home) who buy and use the class of products he is selling.

THE CANDY MANUFACTURER desires the support of the confectionery and allied industries because it is a clean, constructive publication with a clearly defined service to render. There is an indirect benefit to the allied industries by reason of the publication helping to stabilize the industry and make better superintendents and more of them and blaze the trail for new outlets for their merchandise.

We want their support, of course, but we do not want any free-will offerings—no “contribution-to-the-publisher” as is the case with many an advertising contract. All we ask is that the manufacturers of supplies and equipment spend at least the first \$900.00 of their yearly promotion appropriation in form of a twelve-time, full-page advertising contract in THE CANDY MANUFACTURER and charge it to their direct-mail advertising account if they prefer, because no form of advertising can be more direct than a specialized business magazine with a circulation which is practically identical with a list which the advertiser would use to circularize.

Now there! we've spilled the beans and you know just what the advertisers are paying. You candy manufacturers were not supposed to know anything about our advertising rates or data—this is your inning—you are a passenger on this line. However, it may be that we will have to ask some of you loyal subscribers to help us get the advertising of some of the supply manufacturers to whom all the candy trade papers look alike and who make no distinction between the magazines edited for the distributors and those serving the manufacturers of confectionery. Now if you don't help us land a logical advertising schedule from some good manufacturer who is soliciting your business, then it won't be because you don't know our rates—\$75.00 per page, three cents per page per reader. That pays for paper, printing, postage and mailing to the most accurate and comprehensive list of manufacturing confectioners which could be compiled.

Our Faith in 1922

We believe that every thinking, progressive manufacturing confectioner—executives and department heads—will consider THE CANDY MANUFACTURER an almost indispensable “fix-

ture” because the magazine is devoted to their every-day problems and interests and therefore will be read as part of their regular monthly schedule—not only “when time will permit.” We believe subscriptions and renewals will continue to come in almost unsolicited from wherever candy is made.

We believe a majority of manufacturers in the allied industries, to whom our advertising columns are offered, keenly appreciate this direct and positive contact with their prospective customers—the identical trade on which they are depending for a distribution of their supplies and equipment. There are literally hundreds of firms selling confectioner's supplies and factory equipment who have never advertised their lines but who would naturally take advantage of a specialized medium, such as THE CANDY MANUFACTURER, which can be used to carry their sales message at a less cost and more efficiently than by any other method.

Our Mission—“Our Finished Product”

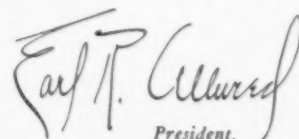
With this recognition and co-operation from the manufacturing confectioners and the supply field, THE CANDY MANUFACTURER will continue to be always a source of inspiration and education to the whole manufacturing fraternity of our industry.

We believe such a mission requires the entire time, energy and concentrated effort of any one organization and therefore our resources and man-power are devoted exclusively to this one monthly magazine and the annual buyer's directory of candy factory supplies and equipment, “The Blue Book,” which will be issued sometime this year.

Such a publishing company has an economic importance which is very conspicuous. Some individuals and institutions in our associated industries are going to have a new conception of trade paper utility and service if they will be so venturesome as to try a consistent campaign in “THE CANDY MANUFACTURER this year.

May we have the necessary signatures on the dotted line of subscription blanks and advertising contracts respectively and the close co-operation of subscribers and advertisers in making THE CANDY MANUFACTURER a constructive force in our industry and one of the finest technical and commercial publications in America. The confectionery industry deserves such a distinction and representation.

The Candy Manufacturer Publishing Co.,


President.

Imported Nut Situation

Jordan Shelled Almonds: Advices from Spain indicate that the quantity of Jordans held by the farmers is not a large one and the stocks in Malaga (the shipping source) is in small compass. The supply is offset by the demand which is only fairly active.

Valencia Shelled Almonds: Two crown goods are available spot and in fair average demand. Three crown standard brands are in easy supply in this market.

Conditions of Shipping have been very unsatisfactory. The emigrant shipping service which has been greatly curtailed by United States governmental regulations has forced the emigration ships to look for revenue through freight pick-ups in the small ports, as the large ports were already covered by regular liners. Therefore, ships stopping along the Italian and Spanish coasts for cargo have been weeks overdue in their run to New York, causing disappointment to delayed Christmas trade. The weather at sea has also been very severe and has caused many

ships to put into neutral ports for repairs. Wholesale houses in the meantime were sold down to the floors and these belated ships arrived here in a bunch, and for the time being, stocks are in plentiful supply and with the impending inventory period at hand, it is natural that long stocks should be turned over at a short profit or cost. But, with spot stocks absorbed, we look for a firm market in the early months of the coming year, as the foreign market holds firm and is in strong hands.

Bari and Sicily Almonds are somewhat firmer. They are the basis of the almond market and the entire list is always affected by the price of Sicily Almonds.

Shelled Filberts: Barcelona Filberts have arrived after the market was practically bare for weeks. Some lots due to long voyage have been detained by the United States Department of Agriculture. They are now in fair spot supply, however. Levante Filberts are arriving and are fair, but far from fancy. They are very good, however, for grinding and where small goods are indicated.

Walnuts: The crop is about 70% of normal. There are no large offerings. The market has advanced materially in the last two weeks. Spot goods have declined somewhat after the Christmas demands were met and pre-inventory liquidation has softened the spot prices. The foreign market will hold up. The shipper figures that the American trade will be forced to buy before the new higher tariff goes into effect. So, with the tariff argument as a goad and the shortage of crop as a further consideration, it is reasonable to assume that there will be a firm market on Walnuts.

Cacao Beans

With active buying, both by manufacturers and dealers, and limited offerings from primary points, the cocoa market continues very firm with a steadily advancing tendency.

Spot stocks are being rapidly depleted, and with a better outlook for the coming year, a further advance is looked for.



SETTER HARD MAPLE SUCKER STICKS

BOTH BLUNT
AND POINTED

Large stocks always
on hand

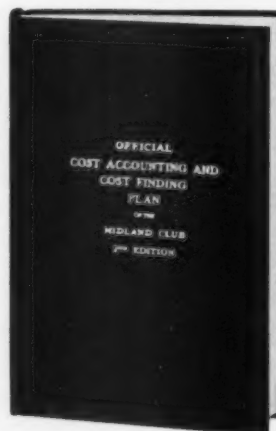
Samples and prices will
convince you that these
are the sticks you
ought to use.

Write

SETTER BROS. CO.
Cattaraugus, N.Y.

OFFICIAL Cost Accounting and Cost Finding Plan

Adopted by
The Midland Club



\$3.00
the copy

For Sale by
The Candy Manufacturer
30 North La Salle St., Chicago

Rose Buds From Our Readers

The kind of a magazine which "the Manufacturing Confectioner has not yet seen"

208 St. Clair Avenue, N. W.
Cleveland, Ohio, Dec. 5, 1921.

We are enclosing check for \$10.00 covering five-year subscription to "The Candy Manufacturer."

One of the principal reasons for our five years' subscription is due to the fact that we think from a scientific standpoint you are publishing a technical magazine such as the manufacturing confectioner has not yet seen.

We feel that it is to fill a long desired want in our industry and trust that the future numbers will be as beneficial as those you have already issued.

Wishing you continued success and the compliments of the season, we are with best wishes,

Very truly yours,
THE CRANE CHOCOLATE COMPANY,
(Signed) L. E. Gruber,
Purchasing Agent.

An up-to-date magazine

Hastings, Neb., Dec. 2, 1921.

We are very pleased to acknowledge receipt of Volume 1, No. 4, November issue of *The Candy Manufacturer* which we are delighted to say is an up-to-date magazine not only from point of composition, but in contents.

We are pleased to place this into the hands of our factory superintendent with the knowledge that indirectly through his increased efficiency our firm will profit.

Wishing you the success you deserve and the compliments of the season, we are,

Very truly yours,
HAGER CANDY COMPANY,
By: Walter E. Hager.

ANDREW J. BLOOMFIELD
Manufacturer of
High Grade Candies

Ann Arbor, Mich., Nov. 27, 1921.

Please enter my subscription at once, and if you still have a November issue, send it along.

It is true, I am much interested in Mr. Murphy's articles and would therefore appreciate these as soon as possible.

Yours respectfully,
(Signed) A. J. BLOOMFIELD.

From the "A No. 1" folks

New York, Dec. 2, 1921.

The Candy Manufacturer Pub. Co.
Stock Exchange Bldg., Chicago.
Gentlemen:

Kindly enter our subscription for one year beginning July, 1921, (omitting the September, 1921, issue).

Also send us five copies of the November, 1921, issue, and enter our order for a bound volume containing Mr. Murphy's complete serial, price of which is \$5.00.

Kindly send us invoice and we will remit.

Yours very truly,
(Signed) HAWLEY & HOOPS.
x/cs

Likes a specialized paper

Seattle, Wash., Dec. 20, 1921.

I wish to acknowledge the copy of the November *Candy Manufacturer* and will say that I am very glad to see a *real candy manufacturers' journal* and hope that you will keep it a strictly *candy paper*.

It should have the support of every candy manufacturer in the country.

Enclosed please find check for \$3.00 (Three Dollars) for one year's subscription. If possible I would like to have issues Nos. 1, 2 and 3.

Our slogan is as follows: "Burns Scotch Toffee and Burns Butter Scotch—a package a day keeps you sweet and gay."

Wishing you a Merry Christmas and a Prosperous New Year, we remain,

Yours very truly,
BURNS CANDY COMPANY,
(Signed) L. G. Burns.

Wants all back copies

Toledo, Ohio, Nov. 28, 1921.

The Candy Manufacturer,
Stock Exchange Bldg., Chicago, Ill.
Gentlemen:

We are just in receipt of your November issue of *THE CANDY MANUFACTURER*, and are very much pleased with the same.

Enclosed please find our check for \$3.00 to cover one year's subscription to *THE CANDY MANUFACTURER*, and if possible kindly date our subscription back to the first issue, forwarding the previous copies to us at your earliest convenience.

Very truly yours,
THE KAUFMANN CONF. CO.,
(Signed) A. R. Kaufmann.

Wants all back numbers

Burlington, Iowa, Dec. 23, 1921.

The Candy Manufacturer,
520 Stock Exchange Bldg.,
Chicago, Ill.

Gentlemen:

Being desirous of obtaining a number of articles in your past publications, I would like to have you enter my subscription for "THE CANDY MANUFACTURER," dating back and including the June number.

Please advise me of your action on this request. Hoping to receive back copies and receipt for subscription by return mail, I am,

Very truly yours,
GROVER C. DUTTWELER,
1605 S. Central Ave.

A 5-year subscriber

Poughkeepsie, N. Y., Dec. 5, 1921.

The Candy Manufacturer,
Stock Exchange Bldg., Chicago, Ill.

Gentlemen:

We thank you very much for sending us the sample copy of *The Candy Manufacturer* and we are sending you herewith subscription order for five years, to start with the January number. We are also returning to you for your files the copy of the June issue that you were good enough to send to us.

Yours very truly,
SMITH BROTHERS, INC.,
(Signed) W. W. Smith.

Wants all back copies

Bryan, Ohio, Dec. 22, 1921.

The Candy Manufacturer,
30 N. La Salle St., Chicago.

Gentlemen:

We herewith enclose check for \$3.00 and ask that you enter our subscription for one year to *THE CANDY MANUFACTURER*, sending us the back numbers from June with the exception of the one sample issue we received, which was November.

Very respectfully,
THE SPANGLER MFG. CO.,
(Signed) A. S. Lang.

Subscribe to *The Candy Manufacturer*—it identifies you and helps us both.



CLASSIFIED ADVERTISING

Help Wanted, Situations Wanted, Salesmen Wanted, Machinery and Equipment
Wanted and For Sale, Etc., Etc.

RATES: 25c per line; \$1.00 minimum. Forms close on first of month.

MACHINERY FOR SALE

FOR SALE—MILLS POWER DROP
Frame and Rolls, Burkhard Jap Mixer, Sizers, Mills Tilting Copper Mixer, Buttercup Cutting Machines, Hard Candy Ball Machine, 100 H. P. Steam Engine, 15 Ton Ice Machine, Starch Trays. D. Auerbach & Sons, 11th Ave. 46th to 47th St., New York City.

FOR SALE—ONE AUTOMATIC RA-
cine Sucker Machine in good condition. Lincoln Candy & Mfg. Co., Atchison, Kansas.

FOR SALE—COCOA BUTTER PRESSES.
Several used presses, Carey and Springfield make, 12 inch and 16 inch sizes, in good order. Address A212, c/o The Candy Manufacturer.

FOR SALE—1 NEW, UNUSED, U. S.
Improved Automatic Bottle Filling Machine with acid resisting glass enamel lined tank, 8 siphons, complete with saddles, screws and split pins, all contact parts triple silver-plated; price \$200 f.o.b. Minneapolis. The Brazilla Co., 321 5th Ave., S., Minneapolis, Minn.

FOR SALE—PATENTS FOR FRITZ'S
chocolate coater or will join corporation—a machine that will turn out better and more goods than any on the market. M. Fritz, 1824 Germantown Ave., Philadelphia.

FOR SALE—ONE 15 HORSEPOWER
Engburg Upright High Speed 400 R. P. M. 6x7 Steam Engine. Good as new. The Spangler Mfg. Co., Bryan, Ohio.

FOR SALE—CUP CRIMPING MA-
chine for making paper Bon Bon cups. Capacity 50,000 hourly—simple operation. Reasonable. Horace L. Day Co., 4 White St., New York, N. Y.

FOR SALE—ONE STARCH BUCK;
new, never been used, perfect condition. The Nuss Confectionery Co., 315 W. 3rd St., Cincinnati, Ohio.

FOR SALE—WOODBURN SUGAR MILL,
Type T2, Capacity 900 Pounds Per Hour. Powders sugar to extreme fineness. Used, but in first-class condition. Present cost of new machine \$1,500.00. H. A. Johnson Co., Dept. 4, 221-227 State St., Boston, Mass.

FOR SALE—MILLS 20th CENTURY AD-
justable Knife Candy Cutter, used 2 weeks; Braid or Ribbon Machine, 1 inch width; Cowhide Knickerbocker Agents Sample Case, double tray; Avery Exact Weight Scale, weighs ¼ oz., 6 lb. capacity. If interested, write for prices. Nold Candy Co., 1632 Larkin St., Shorewood, Wis.

MACHINERY WANTED

WANTED—BOX MAKING AND WRAP-
ping machinery. Price and description wanted of used scoring machines, corner cutters, staying machines, wrapping machines for both self-sealing wax and loose-wrapped printed wrappers. Sophie Mae Candy Corporation, Atlanta, Georgia.

WANTED—MACHINERY FOR MANU-
facturing chocolate, cocoa, cocoa butter, etc. We can use triple mills, tempering kettles, refiners, conges or anything else on this order. Quote full particulars and terms. Address A211, c/o The Candy Manufacturer.

WANTED—TO BUY A BALL OR DAY-
ton Cream Beater. Frank H. Munninghoff, 535 W. Market St., Louisville, Ky.

WANTED—FOUR 38 OR 40 INCH RE-
volving Pans with Coils complete, also one pan same size without coils complete. Give age, price, etc., in first letter. The Edw. M. Becker Co., 659 Bolivar Rd., Cleveland, Ohio.

WANTED—A SIMPLEX STEAM
Vacuum Cooker. Must be in perfect operating condition. Liebenthal Bros. & Co., 1430 West 9th St., Cleveland, Ohio.

WE ARE IN THE MARKET FOR A
Ball Beater. If you have a good machine in first-class condition, communicate with us and possibly we can take same off your hands. Quote price, make and style. Pease Bros., Bloomington, Ill.

WANTED—USED MACHINERY IN
first-class condition—Caramel Cutter, Nougat Cutter, and Chocolate Melting Kettles from one hundred to three hundred pound capacity. Barager-Webster Company, 810-812 First Ave., Eau Claire, Wis.

WANTED—SECOND-HAND DUSTLESS
sugar pulverizer, capacity 300 pounds a day; three copper vacuum pans, capacity 40 gal.; three gum mixers, capacity from 40 to 50 gals. Address to "La Imperial," Fabrica de Dulces y Chocolates, M. Villarreal y Cia Apartado No. 56, Monterrey, N. L. Mex.

WANTED—HELP

WANTED—WORKING FOREMAN FOR
a busy retail candy factory located in the middle west. One who can make high grade chocolates as well as general line of candies. In replying give age, salary expected and references. Address A213, c/o The Candy Manufacturer.

HELP WANTED—Cont.

WANTED—WORKING FOREMAN IN
Greater New York factory, experienced in the general line of manufacturing confectionery. Must be able to handle help and get out production. Address stating age, experience and salary expected. Address A214, c/o The Candy Manufacturer.

WANTED—FACTORY MANAGER.
Must be high grade, experienced man who can produce goods and get results. Chocolate line, hard goods. Address A215, c/o The Candy Manufacturer.

WANTED—EXPERIENCED MAN ON
cream, marshmallow and chocolate work. Address A216, c/o The Candy Manufacturer.

WANTED—CANDY MAKER TO TAKE
charge of small reliable plant now specializing in peanut goods but preparing to make a more extensive line. This is a good opening for a reliable, steady young man. Ref. required. P. O. Box 492, Huntington, W. Va.

WANTED—COST CLERK FOR OHIO
candy factory; must have candy experience. Address A217, c/o The Candy Manufacturer.

SALESMEN WANTED

WANTED—SALESMAN FOR THE
New England States. Hobart Mint Co., Lancaster, Pa.

SALESMEN AND BROKERS TO SELL
our Pecan Puffs and Pecan Rolls. Made where the sweetest meats in the world grow. Exclusive territory. Shawnee Candy Manufacturing Co., Shawnee, Okla.

WANTED—CANDY OR OTHER LINES
to sell to grocers and confectioners. Have established trade and other facilities. The Gatlin Company, Manufacturer's Agents, Phoenix, Ariz.

WANTED—SALESMEN IN EVERY
territory calling on jobbing trade to handle as side line the finest peanut-butter kisses ever sold. Price low. Give references and full information first letter. P. O. Box 1447, Springfield, Mass.

WANTED—OLD ESTABLISHED COCOA
and Chocolate house wants experienced traveling salesman for western territory. Resident of Chicago or other big western city. Splendid opportunity. F. Bisehoff, Inc., 148 Sand St., Brooklyn, N. Y., H. C. Lauer, General Manager.

Mention The Candy Manufacturer—it identifies you and helps us

SALESMEN WANTED—Cont.

WANTED—SALESMAN IN EASTERN states to sell high-grade assorted kisses and peanut butter kisses to jobbers, large retailers, chain stores, etc. Prices low and good commission. Give references first letter. P. O. Box 171, Kutztown, Pa.

POSITION WANTED

PAN MAN FOREMAN WISHES POSITION general line of hard, soft, ball, gum, chiclets, almond, etc. Thirty years' experience. Best of references. Address Pan Man, 2989 West Pico St., Los Angeles.

FOR SALE—MISC.

FOR SALE—300,000 INDIVIDUAL folding cartons at 40c per 1,000 cash, f. o. b. Darlington. Size of carton is $1\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$. James E. O'Connor, Darlington, Wis.

CANDY BOXES—WE MANUFACTURE all grades of candy boxes and would be pleased to figure on your requirements. Samples cheerfully submitted. Universal Paper Box Mfg. Co., 2421-25 North Broadway, St. Louis, Mo.

FOR SALE—FORMULA AND TRADE-MARK for the best Black Walnut Taffy made. Will sell any one state or the whole United States. Address A. B. McCartney, Marshalltown, Iowa.

LINES WANTED

REPUTABLE LINE WANTED FOR Louisiana, Mississippi, Alabama, Texas. Consolidated Brokerage Co., New Orleans, La.

CANDY MANUFACTURERS—WE want accounts for Washington, D. C., and vicinity, including Baltimore. Commission basis. Penny, bar, bulk and package goods and specialties. Thompson and Company, 814 C St., S. E., Washington, D. C.

LINES WANTED—LIVE NUMBER IN bars or novelties for the wholesale confectioner. Chas. W. Howell, 404 Observatory Bldg., Des Moines, Iowa.

BUSINESS OPPORTUNITIES

FOR SALE—ONLY CONFECTIONERY in Buhl, Idaho (3500 population), where auto caravan recently settled. Rich irrigated section. Complete candy making equipment, luncheonette and fountain. Paying concern. Bargain. Address Dawley's Buhl, Ida.

WORTH INVESTIGATION—CORPORATION operating wholesale and retail confectionery wishes to dispose of retail interests, to confine efforts to wholesale. Up-to-date retail store, six years' established business. Address E. F. Adams, Chamber of Commerce Building, Tacoma, Wash.

Mention The Candy Manufacturer—
It Identifies You.



You Can Stimulate Your Sales With Our Money Back Plan



Write today
for Samples
and full details

THE LIMOGES CHINA COMPANY
SEBRING OHIO

W. I. Gahris, Pres.

SPECIAL TANK OFFERING

PRICED LOW FOR QUICK MOVEMENT

In order to make room for new incoming industries, we must remove all tanks from our building not later than December 31st, 1921.

Item 39113—4 vertical tanks, 15' dia. x 7', capacity, 9,500 gallons; first grade all heart yellow pine. Staves and bottom 3" thick. Iron reinforcing hoops, $\frac{3}{4}$ " diameter.

Item 39112—10 vertical tanks, 13' dia. x 18', capacity 18,000 gallons; first grade all heart yellow pine. Staves and bottom 3" thick. Iron reinforcing hoops, $\frac{3}{4}$ " diameter.

Item 39107—350 vertical tanks, 9' x 10', capacity 5,000 gallons; first grade all heart yellow pine. Staves and bottom 3" thick. Iron reinforcing hoops, $\frac{3}{4}$ " diameter.

Item 39115—50 vertical tanks, 15' x 16', capacity 21,000 gallons; first grade all heart yellow pine. Staves and bottom 3" thick, $\frac{7}{8}$ " iron hoops. Tanks equipped with paddle agitators complete with bevel gears and driving pulleys.

Item 39115-A—10 vertical tanks, 15' dia. x 16', capacity 21,000 gallons; first grade all heart yellow pine. Staves and bottom 3" thick, $\frac{7}{8}$ " iron hoops.

The Above Items at Sacrifice Prices.

For complete specifications, prints, etc.—

WRITE WIRE TELEPHONE

Sales Department

CHARLESTON INDUSTRIAL CORPORATION,
Nitro, West Virginia.

Advertiser's Index

Put them on your preferred list

	Page
American Coconut Butter Company.....	12
American Dowel Company	49
Atlantic Gelatine Company	Third Cover
Bendix Paper Company	49
Bisler, Inc., G. A.	16
Boston Molasses Company	47
Carver, Fred S.	60
Charleston Industrial Corporation.....	69
Croll Manufacturing Company.....	35
Euler & Company, Franz.....	48
Expositions Company of America.....	56-57
Foot & Jenks.....	59
Fortune Products Company.....	50
Haehnlen, L. S.	48
Henderson Lithographing Company, The.....	58
India Refining Company	10
Limoges China Company, The.....	69
Milligan & Higgins Gelatine Company.....	58
Mills & Bro., Inc., Thos.	8
Monsanto Chemical Works	46
National Bundle Tyer Company.....	60
National Equipment Company	36-37
Nucoa Butter Company	14
Nulomoline Company	15
Palmer, Dwight O.	49
Read Machinery Company	62
Runkel Brothers, Inc.	9
Savage Brothers	6-7
Schultz Company, H.	63
Setter Brothers Company	66
Sinclair, Harold A.	Second Cover
Spencer Importing Company	62
Taft Company, R. C.	13
Traver Paper Company, The F. C.	55
Ungerer & Company.....	11
Vacuum Candy Machinery Company.....	3, 61
Von Dannenberg & Pick.....	62
Warfield Chocolate Company	54
Weiscopf, L.	17
Werner & Sons, John.....	38
Whitten Company, J. O.	59

Business Paper Literature—II

A sequel to article on page 12 November issue

INASMUCH as the advertising pages of this magazine constitute an essential and valuable part of its literature, the advertisements are solicited from the same motives which prompt the editorial assignments.

In other words, we ask the reputable manufacturers of candy factory supplies and equipment to place their sales message in this magazine because such information about sources of supply is of real interest and service to our subscribers. These practical men of the candy factories who buy and use the supplies and machinery should find in their own specialized magazine, the advertising from reputable firms who are soliciting their patronage.

THE CANDY MANUFACTURER does not knowingly solicit or accept advertising copy unless it is consistent, and the product advertised can be conscientiously recommended to our readers. In this respect the close co-operation of the industry will be appreciated so that the advertising pages of THE CANDY MANUFACTURER will chronicle a comprehensive and dependable source of candy factory supplies and equipment.

Therefore, we ask the supply field to use our advertising columns because:

- (1) It identifies them as a manufacturer of an "approved product."
- (2) It identifies them as a manufacturer who values the good-will of the candy manufacturer and willing co-operation of the superintendents, foremen and practical men of the factory, and as a booster for the industry.
- (3) It identifies them as an active booster for the industry of which they are a part—indirectly.

Subscribe to *The Candy Manufacturer*—it identifies you

A High Class Technical and Commercial Magazine of Production and Management for Manufacturing Confectioners Exclusively

SUBSCRIPTION ORDER

The Candy Manufacturer

192

1120 Stock Exchange Building, Chicago:

Enter my subscription to *The Candy Manufacturer* for a period of FIVE YEARS ONE YEAR which entitles me to full privileges of your General Service Department, including access to the Reference and Research Bureau and participation in the Open Forum of the magazine. It is understood that a copy of "*The Blue Book, An Annual Directory of American Manufacturers and Importers of Confectioner's Machinery, Factory Equipment, Raw Materials and Supplies*" will be sent gratis to 5-year subscribers. (This offer will be withdrawn when we have received 1,000 subscriptions.)

5 Years, \$10.00. 1 Year, \$3.00

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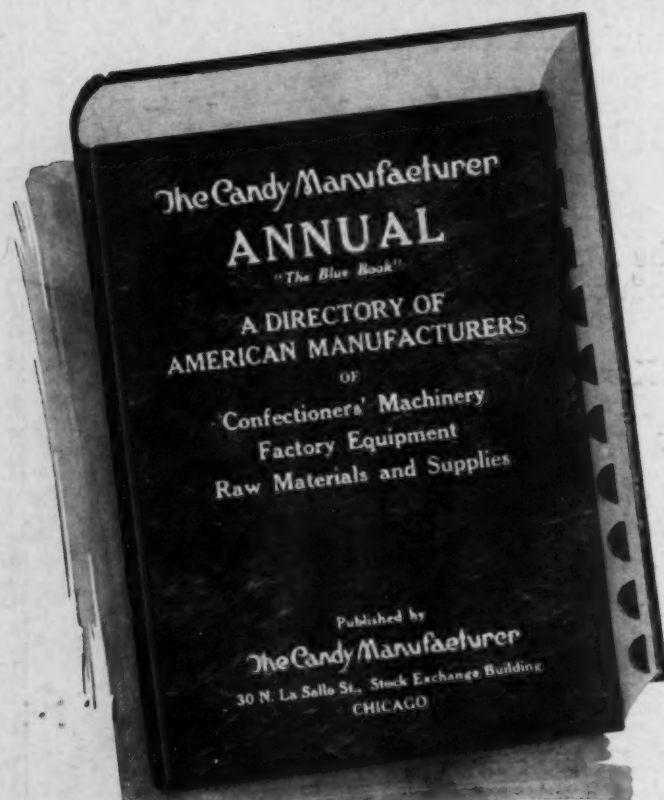
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